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The Buyer Enters the Picture

THE situation in print cloths is approaching a "show-down." The outcome will be of interest far beyond the confines of this particular group; its significance will extend to all branches of textile manufacture.

The latest and most important development has been the active entrance of converters into the picture. Leaders in that field have gone so far as to make personal excursions to textile centers of the South in an attempt to effect a change in attitude on the part of those manufacturers who have not cooperated in the movement to balance production with demand.

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What these converters want, of course, is stability.

This is not a new thought. Over and over again, it has been emphasized in these columns and elsewhere that buyers are not primarily and fundamentally interested in lower and still lower prices. They want to buy as cheaply as their competitors, but they do not want the general level of quotations to fall below the line of fair profits to manufacturers—with the inevitable weakness and demoralization which follow.

In the past, they have not been particularly vocal in their demand for stability. But in this new development in the print cloth market, converters are not only articulating their desires but are doing it in a semi-organized way.

The significance of their move is interpreted by Hunter Mfg. & Commission Co. as follows:

"When previous efforts to arrange curtailment have been undertaken, they have been by the selling agents or by the mills themselves. That the converters should now be leading in the demand for stabilization of prices through curtailment is a new and interesting situation and one that should have direct appeal to the mills, for the distribution of print cloths is not accomplished until the finished goods have been disposed of. For the good of all concerned, we hope to see something accomplished along these lines."

In our opinion, the present crisis in print cloths involves far more than the mere question of whether or not definite and continuing curtailment, in line with demand, will be effected by all manufacturing units.

It involves the fundamental question of whether the type of cooperative action, undertaken by the industry in recent years, will be permitted to produce results in the form of profits.

Reports from our southern editor indicate that manufacturers who have supported every constructive move in the past, are now definitely tired of "holding the bag"—and are disposed to enter the war themselves—partly, we presume, with the idea of exerting punitive measures, and partly because they feel that, if a fight is inevitable, they have as good a chance to win as the other fellow.

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From the human standpoint, we understand and sympathize with this attitude. From the standpoint of pure logic, however, we cannot follow them.

The industry has been going through an educational process. This is only partly completed today. It must go on. Many of the men in the vanguard of the fight for sanity were themselves "converts" not so long ago. The fact that they have subordinated immediately selfish considerations to the advancement of the industry reflects their belief that only in this way could they expect ultimate and permanent prosperity for themselves. The basis for that belief exists just as strongly today.

This is no time for a war. It is a time for more intensive educational efforts. Toward this end, the entrance of the buyers into the picture should help.

The Week in Textiles

as Reflected in This Issue

General

Improved Machinery

The current advance in textile machinery is due mainly to the necessity which machinery manufacturers face of developing equipment for replacement rather than for expansion. The effect may very possibly be, contrary to first impressions, a reduction in the overproduction now hampering the industry. *(page 28)*

Booking Orders at Loss Suicidal

Booking orders at a loss is roundly scored by a reader in a letter to the editor. They are called business suicide. If there were some way to legislate profit into every price, textile problems would be 90% solved. *(page 31)*

Village Modernization

Modernization of the mill village of the Whitney (S. C.) Mfg. Co. is a fine example of the progress in community development which has been made in recent years. Recognition of the importance of good living conditions in textile villages is typical of the industrial improvement of the South. *(page 37)*

Cooperative Textile Research

A survey of the facilities available to textile research men and the scope and character of the work now going on reveals an unnecessary amount of duplication of effort, a lack of adequate financing, and a large amount of uncompleted work. Commercial laboratories specializing in chemical research predominate. *(page 38)*

Accident Prevention

A plant physician discusses means of preventing or minimizing accidents in textile plants. Definite placement of responsibility for accidents and the need of promptly reporting them often facilitates guarding against them in the future. *(page 41)*

Selling Expenses Figuring

Selling expense figured on a percentage basis are often inadequate when price per yard descends to the low territory now touched by many textiles. Irving Lewin outlines the situation as it hits broadsilks and suggests a remedy. *(page 45)*

Cotton

Controlled Preshrinking of Fabrics

The Sanforizing unit, a comparatively recent development in the textile industry, has held the interest of many cotton manufacturers. In order that a clearer understanding of the machine may be had, a complete article has been prepared which describes the operating principles and theories of this new textile machine. *(page 32)*

Comparable Yarn Tests

The introduction of correction factors to bring yarn tests made under different conditions to a common regain basis is considered not only advisable but necessary. A conversion table to correct count and breaking strength obtained at various humidities to an equivalent count and break at 6½% regain is supplied. *(page 40)*

Long-Chain Quilling Machine

All textile equipment of course requires more or less constant attention, but the long-chain quilling machine has certain requirements peculiar only to itself. General information on the care and adjustment of these machines is outlined. *(page 36)*

Bow in Duck Fabric

The tendency of heavy duck fabrics to develop a bow in the filling may be attributed to a variety of causes. Only a heavily constructed loom should be used in weaving these goods. If proper precautions are taken and the proper type of weaving equipment is used, there is no reason why the bow should not be entirely eliminated. *(page 52)*

Unfavorable Cotton Outlook

The unfavorable outlook for cotton is not materially relieved by the holding movement according to Dr. L. H. Haney writing in this week's TEXTILE WORLD Analyst. "A truly enormous surplus of raw cotton and the absence of any independent strength in the goods market," says Dr. Haney, "tell the story. The present situation is largely due to past artificial holding of supplies and the unfavorable outlook is not relieved by extension of that policy." *(page 55)*

Yarns Irregular

Cotton yarns are irregular. Buyers are not generally interested and pushing sales means merely price cutting. In combed and mercerized yarns price concessions have been made and it is understood that some few buyers have placed orders running in the latter part of 1932. *(page 59)*

Cotton Resists Decline

Cotton has been easing but meeting good resistance to declines. It still remains above recent lows. Japanese buying in the South is a feature, but the future turns more definitely on likely acreage next season and actual consumption. *(page 59)*

The Textile Outlook

THE advent of the holidays and the year's end has proved a help to some lines in the textile markets and a detriment to others. Unfortunately the latter class seems in the majority. The month as a whole is not expected to warrant much cheering. Certain gift specialties, particularly hosiery, have done fairly well in advance for Christmas distribution. The bread and butter lines in woolens, cottons and silks however remain untouched and generally dull. There is little hope through the field generally that December will do much more than mark time. The waiting ranks may get off at a good stride after the turn of the year if the present is used constructively to build up morale. This intangible element in the marketing of goods has been sadly damaged in some parts of the field, and it is imperative that attention be given to it if any progress is to be made. Things have reached such a pass in certain lines of cottons that buyers are taking a hand in bringing the market to sanity and stability, and the mere fact that they are making this effort should clear up some of the misguided beliefs about what buyers want. They may want low prices but above all in times like these they must have stability. December will be a fruitful month after all if the industry can fall in line with this new spirit.

Wool

Cold Snap Helps Fabrics

Wool goods lines, especially blankets and other winterweights, are in better call thanks to drop in temperature. *(page 63)*

Grain Count of Woolen Yarn

A single formula for determining the grain count of woolen yarn without first finding the count in runs and then changing it to grains is presented. The measuring and weighing of a short length of yarn involves a certain degree of unavoidable inaccuracy. *(page 53)*

Scant Yarn Trade

Demand for worsted yarns is exceedingly limited and scant movement is expected before the end of the year. Strength in wool is encouraging spinners, as is also a probable upturn in January or February in sales of goods requiring yarns. *(page 59)*

Wools Are Steady

The wool market continues to exhibit steadiness which is most encouraging to dealers. Certain sorts are not now available at the bottom figures touched a few weeks back and sellers believe that mills are satisfied that current values are unlikely to be undercut. *(page 61)*

Knitting

Horizontal Streaks in Fabric

The presence of horizontal streaks in a fabric knit on a circular jacquard machine is traced to a variation in stitch length. Yarns of different shades may also give the same effect. *(page 53)*

Gift Hoisery Call at Peak

Christmas hosiery demand is at peak —and the peak doesn't break any altitude records—but knitters are considerably encouraged. *(page 65)*

Bonney

Primitive African designs blend well into twentieth century decoration. Above is a Madagascan pattern adapted by French artizans for carpet use

Underwear Reorders Tardy

Duplicate business on ribbed underwear comes in so slowly that mills expect demand to stretch through January, necessarily deferring new openings. *(page 65)*

Winter Sweaters Picking Up

A slight increase in reorders for winter sweaters is reported, but buying generally centers on mediumweights for which there is considerable business available. *(page 65)*

Silk

Improved Silk Loom

The new features of an improved silk loom recently developed by a well-known textile machinery manufacturer are outlined and described. The machine has been designed with a view to improved quality as well as increased quantity of work. *(page 51)*

Raw Silk Uncertain

December brings hesitant tone to primary market but importers expect active month. *(page 61)*

Reeled Silk Competes with Spun?

Spinners complain that low levels of reeled silk have delayed spring movement of spun yarn. Little call for either spun or thrown silk. *(page 61)*

Spring Fabrics Active

Increased demand for spring broadsilks is about equally divided between plain and printed fabrics. Cutters more confident. *(page 63)*

Rayon

New Type of Loom Reed

Announcement is made of a new type of loom reed particularly adapted to the weaving of rayon fabrics. It is designed to minimize breakage, facilitate the passage of knots, and afford greater ease in drawing in. *(page 51)*

Seasonal Drop in Yarn Orders

Synthetic yarns show normal December slackening but market tone is strong thanks to curtailed production and healthy inventory position. *(page 61)*

Processing

Back-Filling Problems

When low-count fabrics are being processed it is almost impossible to completely fill the interstices in the back-filling operation. A good working routine is outlined. *(page 52)*

Finishing Spun-Rayon Fabric

Extreme care must be exercised in the initial stages to set the crepe correctly in fabrics containing spun rayon yarns. Improper handling of these goods in the finishing processes cause open effects in the warp. *(page 52)*

The Business Outlook

IT involves no serious strain on one's optimism to see in the current statistical straws some sign of stabilization in the level of domestic business activity and some promise of improvement in the next 90 days. The October bulge in commodity and stock prices as well as in some business indicators was in larger part wiped out during November, but on the whole there has been no serious set-back, and some net gain. Stock averages have been bashful about breaking through the bear market lows; commodities still oscillate reassuringly around the levels that have been held for nearly six months. Steel activity and carloadings have succumbed very slowly to the usual seasonal slackening, and some stimulus to steel is still to be expected from year-end new-model automotive demand. The heart breaking bond market is the outstanding and disturbing exception to this promising picture; and the accompanying banking strain and slackness in new capital issues must be overcome before we can count on a clear track for recovery. The imminent bankruptcy of Germany, and the threatened breakdown of our own railroad structure unless prompt relief is supplied are now the most or only formidable obstacles to stablilization of the securities markets and fundamental betterment.—*The Business Week.*

Cause and Effect of Current Advance in Textile-Machinery Improvement

By Edwin D. Fowle

Associate Editor, TEXTILE WORLD

◆ *If the textile industry will refrain from employing high-production machines to increase total output—that is to say, if it will use such equipment strictly to decrease operating costs—it will have a splendid opportunity to eliminate or reduce the overproduction which now hampers it. This is because continual renovation of the better mills will close the less efficient ones, and because reduced costs, followed by reduced selling prices, will widen the market. This is one of the conclusions reached by Mr. Fowle in a paper presented last Wednesday before the Textile Division of the American Society of Mechanical Engineers at its annual meeting in New York. An abstract of the paper, omitting those details of the advance in machine improvement with which readers of* TEXTILE WORLD *are familiar, follows.*

A REPRESENTATIVE of a prominent textile-machinery firm early in 1931 declared "We have brought out more improvements the past year than in any like period in our history." The same statement might truthfully have been made by a number of other equipment builders; it could certainly have been made for the textile-machinery industry as a whole.

The year referred to, 1930, may receive attention from students of industrial history as marking the apex of an astonishing advance in the improvement of textile machinery. For decades previous to 1929, developments appearing on the market were, as market reporters say, spotty. There were a few outstanding ones, it is true; but they appeared sporadically at comparatively long intervals and affected a relatively small number of processes. There was no general movement toward improving the technique of textile manufacturing in all departments of the mill, such as became evident in 1929 and 1930.

To measure the magnitude of the advance, it seems wise to take as a basis those improvements in equipment which the textile press considered of sufficient importance to mention in its columns. The years 1926, 1927, and 1928 were typical of those which preceded the upward swing, and over that period the number of developments so mentioned averaged 64 per year. In 1929 the number rose to 107; and in 1930, to 203. In 1931 it has fallen off somewhat, and it is estimated at this writing that it will be somewhere around 165. The reasons for this decline will be discussed later. Although these figures indicate that the era of development first showed results in 1929, it must be understood that the work of research and experimentation, which is the true basis of it, actually began several years earlier.

It should be pointed out that included in the developments counted for comparison and otherwise referred to in this paper are only those which apply strictly to textile machinery, as compared with general industrial equipment applicable to a number of industries. Important advances have been made in the latter class, but any detailed discussion of them here would not be pertinent to the subject.

Causes of Advance

Viewing the textile industry as a whole, it appears to be a fact, in certain respects unfortunate, that the mills themselves are responsible for comparatively little mechanical progress. The reasons for this are not difficult to understand. It is not easy for them to make basic changes in their machinery, and they are not equipped to build and experiment extensively. Their organizations are not especially trained in basic mechanical principles, and they often do not have free access to other mills from which to cull ideas. Rather than devote time and attention to the fundamental development of machinery, they are more apt to make the most of their equipment as it stands. Even those mills which are the exception to this rule, and there are several, cannot carry on a complete program of development totally unaided.

Thus it is that responsibility for mechanical progress in the textile industry lies at the door of the machinery builder, and to him one must turn for an explanation of any irregularities which occur in such progress. When the war boom collapsed in 1921, the momentum of the expansion which the mills had conducted carried the machinery builders fairly comfortably for two years. Few mill men realized that the poor condition of business would be more than temporary. Surely the expansion should be continued while the industry awaited the return and higher upswing of the business pendulum. The machinery builders had also expanded. For some time their activity was sustained by hope. Gradually they began to trim their sails by consolidating their plants, closing certain departments, and economizing in other ways.

At the same time they found it advisable to take another step. Since lack of expansion had killed the demand for the old lines of machines, their main hope lay in developing something which mills would wish to employ in order to improve the quality of their work or to reduce their operating costs. In this way mills would be induced to scrap their present equipment and make further purchases of machinery.

No doubt careful study was made of those factors which render a new machine popular. Concisely stated, these are improved production, quality of product, flexi-

bility, durability, and dependability, together with decreased first cost, upkeep cost, labor cost, power consumption, floor space, and danger. Consequently there began to appear upon the market ingenious new machines having one or more of these qualifications.

Managers of machinery plants who believed that only temporary measures were necessary, as well as some philanthropic managers, entered a program of research largely to supply work to idle hands. Others, always eager to undertake such work, found in slack business a golden opportunity to devote time and attention to an activity dear to their hearts. Still others were driven to adopt such programs in order to meet the competition from firms which had already done so.

Just as in the textile industry proper there has lately been introduced a younger and more alert type of direction, so in the machinery industry has conservative, tradition-adhering management largely given place to a less restrained, more progressive type. This in itself is responsible for some of the advance. At the same time, and partly as a result of the newer type of management, more attention has been given to merchandising problems by both textile and machinery men, with the result that both manufacturers have come into closer contact with the users of their products and have developed a better understanding of their needs. More thorough knowledge of the factors involved in style changes, for example, has influenced builders supplying equipment to certain branches of the industry (such as, notably, the knitting branch) to develop machinery capable of meeting more accurately the changing tastes and demands of the public. Recent trends toward novelties in textile products have also made their demands upon the inventing genius of the machinery builder.

The 1931 Recession

The slowing down in rate of development which has taken place this year is not particularly marked, and the rate is still far above normal. The causes which created and fostered the advance are still active, but an important opposing influence has taken effect. This is the failure of the machinery companies, thus far, to obtain full return on the investments they have made in development work. Naturally their resources are not unlimited, and it is necessary that a reasonable return be obtained before much further progress can be made.

Many mill men seem to entertain the notion that a new machine is the immediate result of a brilliant idea suddenly conceived. Such is not the tempo of modern achievement. New equipment of originality is today the result of long and expensive research and experiment. Large engineering staffs are required. One machinery firm, for example, has in recent years expanded this department to eight times its former size. Much extra drafting work is required. Considerable material and effort are wasted in following through fallacious ideas or delusive lines of reasoning. Many apparent accomplishments are found to be failures from a practical standpoint, as was the case with some of the innovations exhibited at last year's shows. To go into production on new lines often calls for expensive purchases of new machine tools on the part of the equipment manufacturer. A further expense is the many new parts which the builder must carry in stock for any new machine.

Some mill men might look on the selling price of new machines in a more tolerant mood if they understood the actual cost of the development behind them. One of the more active machinery firms, for example, has spent in recent years approximately $100,000 in improving one machine.

A sight not sufficiently common—the entire equipment of an obsolete weaving department scrapped

The mill men are not prepared mentally or financially to absorb this cost at once. They can do so only gradually over a long period of time. The builder must, accordingly, price his machines attractively. One builder, for example, has sold the first 11 machines of a new model at a loss of around 25%. It is no wonder then that progressive builders find themselves without sufficient funds to maintain the pace of development work for an unlimited period.

Other factors are to a less extent responsible for the recession. The furor of development in 1929 and 1930 left many rough spots which must be ironed out before further new departures in the same direction can be made. A number of innovations have still to prove their worth in practice. In some cases adjustments in preceding and following processes must be made before a specific development can find a permanent status. It appears also that the human mind is capable of only a limited progress in a given time and that inventive genius, particularly when under such pressure as has lately been the case, requires periods of rest. Furthermore, failure in attempted accomplishments, although stimulating to some minds, is more likely to be discouraging and to foster inactivity. Finally, the mills are confused and embarrassed by too radical a shake-up in established ideas and methods and must be given time to accept the new developments.

Effects of Advance

The probable effects of this general advance in machine improvement are interesting to contemplate. Purchases of machinery will undoubtedly be stimulated, but whether the increase will be sufficient to repay the builder for his effort for some time to come is debatable. At

least the majority of firms are certain to survive long enough to reap benefits from it.

The resulting activity will be of some immediate benefit to general business. Probably 70% of the money spent by textile mills for new machinery is absorbed by the employees and, under normal conditions, the stockholders of the machinery companies, while the remainder goes to the industries which supply the iron, steel, wood, leather, rubber, brass, copper, coal, oil, paint, and other raw materials. All workers in those industries are purchasers of textiles, and the money they spend for other things reaches other textile consumers.

The most general tendency in new machinery is toward increased production. Often an operation is now carried out at more than double the old rate of speed, thanks in some cases to the application of new mechanical principles and in many others to such simple improvements as the adoption of anti-friction bearings. The fear has been expressed that the textile industry, already overproducing, will find any improvement in the efficiency of its individual units more disastrous than helpful.

Any manager who makes the mistake of believing that in these times the benefits to be derived from high-production machinery lie in increasing output is steering toward disaster. It is exceedingly essential that high-production machinery be used to give the same, or less, total mill output. Of course this output will be attained at reduced cost. The possibility of cost reduction lies mainly in minimizing the requirements for labor, upkeep, and power.

All improved machinery does not offer increased production. Some affords mainly an improvement in quality of product or in the ease by which changes may be made in the type or character of product. No danger is seen in the installation of such machines, unless the improvements they offer are not sufficient to make the investment returnable within a reasonable period of time.

Forcing Obsolescence

It has even been suggested that the machinery producer is forcing the obsolescence of present equipment to his own benefit, and to the detriment of the industry. Already short of funds, it is argued, the mills are suddenly called upon to make new and unexpected expenditures which they cannot afford. There are two answers to this criticism, both exonerating the builder from exerting any detrimental influence, although not denying that he naturally has his own interests at heart.

In the first place the purchase of improved machinery is not in the long run an expense to the mill. If it is worth installing, it pays its own way, returning to the mill all which was spent on it, and adding more. Often it permits a reduction in selling price on the mill product, with the result that the market is widened and overproduction is, in effect, reduced or eliminated.

In the second place, it is only the mills in at least a fair financial position which can afford to purchase the new equipment. Continual renovation of these plants will widen the gap between them and those competitors which are less efficient or which are faced by insurmountable obstacles, such as unfortunate location, for example. The result of this will be that one of the most frequently proposed solutions to the textile tangle will be accelerated —the mills which are not capable of operating profitably against the competition of their stronger neighbors will be forced more promptly out of the picture. Again overproduction will be reduced or eliminated and the major cause of the disastrous price cutting from which the industry has long suffered will be removed. The mills which remain will be able to sell what they produce at a fair profit.

Therefore, in the possibility of the mills failing to recognize the importance of reducing costs without increasing total output lies the only danger. The mills may feel that an up-to-date plant can afford to increase its production in order that it may assume some of the business of the departing inefficient plant. It must be remembered, however, that shaking off the shackles of ruinous competition is, like the working of that law of evolution known as the survival of the fittest, a gradual process. Any appreciable attempt to take advantage of it too early will obliterate all the potential gain which it creates. Instead of eliminating only inefficient mills, it will become necessary to eliminate many of the better ones as well.

Too Little Scrapping

Furthermore, it is unfortunately true that the elimination of a mill does not necessarily remove from competition all the machinery which it contains. In this connection it is interesting to note that, of the machinery in the many knitting mills of Brooklyn, New York, which have gone out of business in recent years, practically all of it is in operation today, although in different hands. Far too little scrapping of machinery is undertaken by the textile industry, not only in the case of mills which close down, but also in that of mills which replace obsolete machinery with new. It takes a long-distance view into the future for a manufacturer to appreciate the ultimate importance to himself of reducing his replaced machinery to scrap. Its resale value for active production is naturally tempting in view of the fact that the income so received reduces in effect the actual cost of the new equipment. Yet more farsightedness in this respect is needed, and one must live in hope that before very long this fact will receive the full recognition it deserves.

It is therefore unsafe at this time to draw up a workable estimate of any decrease in production which the current improvement in machinery may cause. Instead, it is safe to assume only that, under any circumstances, there is likely to be an overproduction for some time to come, and that consequently an attempt to increase the output of plants must not be made. It will be far better to err on the side of creating underproduction than to maintain present conditions.

Another effect of the advance is an intensifying of the problem of allowing properly for obsolescence. Recent study of the methods employed by mills for anticipating and deciding upon replacement of machinery has disclosed an appalling carelessness and even lack of understanding regarding this matter. Depreciation reserves appearing on income-tax returns do not actually exist. No systematic methods for keeping track of the condition of various units of the mill machinery are adhered to. Many mills make no special effort to investigate and study new equipment. Very many lack the knowledge of costs needed to calculate when a new machine is capable of paying for itself. The current advance in machinery improvement is bringing home, as nothing else could, the vital necessity of paying attention to these things.

Due to the fact that even the stronger mills are in a none too healthy condition financially, one more result of the advance is likely to be the general adoption of a policy of buying equipment on long-term credit. Since the machinery builders lack the resources to supply an unlimited amount of credit, the assistance of credit companies must be solicited.

Booking Orders at Loss *Was "Grand Idea" Once —Now It's Suicidal Says Worsted Spinner*

A Letter to the Editor

COMPETITORS always meet low prices. Ninety-nine per cent of the buyers buy at the lowest price quoted, notwithstanding all they may say about quality. These and other unvarnished statements are contained in the following letter from a worsted spinner.

Editor, TEXTILE WORLD:

We read your appreciation of the great work which Walker D. Hines has done for the Cotton-Textile Institute. Why do you not suggest his name for a similar position with the wool trade?

The trouble with the wool textile industry is that too many mills are run by their owners or large stockholders. If several of these gentlemen were working for a salary, many of them would be out of jobs in a short time. No board of directors would continue in office any management which lost money year after year and seemed to learn nothing from the past or to have any prospects for the future. It was a grand idea to book orders at a loss in order to get volume until everybody started doing it. Now it is suicidal.

The big units which spin their own yarn may think they are reducing their overhead by going into the sales yarn business. They may also think that they can undersell regular sales yarn spinners because they do not charge their full overhead against this yarn. As a matter of fact they only increase competition so that spinners have to reduce their prices and sell weavers at a lower price than they otherwise would in order to enable their customers to compete with the big units.

The big weavers think that if they sell knitting yarn, they are getting away from this, but, as a matter of fact, as long as Bradford or French machinery can spin either weaving or knitting yarn, the result is the same.

The reason that the spinning division of the Wool Institute failed was because its members would not play fair. It was discovered that certain spinners did not report their low priced sales, consequently the others did not know what their competition was and lost business. When they found they had been tricked, they lost interest and refused to continue.

There are a few fundamental A B C's which the wool textile industry will never learn.

1. That competitors always meet low prices.
2. That buyers always tell spinners all the low prices they are quoted.
3. That 99% of the buyers buy at the lowest price quoted, notwithstanding all they may say about quality.
4. That no mill ever really goes out of business. It may go bankrupt in which case it is either sold as a unit at a very low price and continues as before, or is sold piecemeal and its machinery goes at junk prices to competing mills to round out their production, decrease their manufacturing costs and put more and cheaper yarn on the market.
5. No spinning machinery is ever worn out or obsolete. The reason that some of our so-called biggest and best mills will not admit visitors is because they do not want them to see how old and archaic their machinery is.
6. Low wages never compensate for poor management. It may be smart to reduce the pay of workers who have to choose between accepting wage cuts and starvation, but who gets the benefit? There never was a wage reduction yet which the merchandise buyers did not demand should be passed over to them.

WORSTED SPINNER

[*Editor's Note:* After we finished reading the above letter, our eye went back to the statement: "It was a grand idea to book orders at a loss in order to get volume until everybody started doing it. Now it is suicidal." Our mental comment was: "You said a mouthful." At the moment we can think of no way of expressing our appreciation more elegantly but equally forcefully.

Then our attention turned to the sentence: "99% of the buyers buy at the lowest price quoted, notwithstanding all they may say about quality."

Last year TEXTILE WORLD sent a questionnaire to yarn purchasers. Analysis of well over 200 replies brought out some interesting points. Asked to rate the importance assigned to seven factors when purchasing yarn, 40% listed uniformity as first choice, 34% chose running quality, 15% gave precedence to reputation and standing of seller, and only 5% rated price as of first importance. The number which marked price as second, third, or fourth choice was comparatively higher, being 13%, 30% and 19% respectively.

This attitude cannot be dismissed with the qualifying phrase, "notwithstanding all they may say about quality." We agree, readily, that the majority of buyers buy at the lowest price quoted. The point we made in reporting on the above-mentioned survey, and the point we wish to re-emphasize here, is: "Making every possible allowance in the above figures, the fact remains that the majority of yarn purchasers do not place price in a predominating position. It would therefore seem that selling which places emphasis on other factors is practical and logical." (TEXTILE WORLD, Jan. 3, 1931.)

But, so long as mills "book orders at a loss in order to get volume" (to quote our correspondent); so long as "competitors always meet low prices"; so long as sellers feel they have nothing to sell except price—just so long will buyers continue to "buy at the lowest price quoted," quality to the contrary notwithstanding, and just so long will the industry continue to merit such comments as those made by our correspondent.]

Sanforizing Process Permits

Controlled Preshrinkage

of Woven Fabrics

By Sanford L. Cluett

Cluett, Peabody & Co., Troy, N. Y.

◆ *The accompanying article is abstracted from a paper read by C. H. Ramsey, president of Morrison Machine Co., Paterson, N. J., at the annual meeting of the Textile Division, American Society of Mechanical Engineers, held Dec. 2, 1931, in the Engineers Club, New York.*

IN ORDER to minimize the laundry shrinkage of fabrics as far as possible, several methods of preshrinking have been in use for many years. Among these may be enumerated: (*a*) Wetting or soaking the fabric and drying it with as little strain as possible on the warp and filling; (*b*) chemical shrinking; and (*c*) washing the fabric. These three hold important places in the shrinking art. Inasmuch as the causes of the shrinking of fabrics when they are subjected to a full laundry treatment are mostly mechanical, the most effective treatment to prevent shrinking may be found in some process of mechanically rearranging the fibers of the fabric (including changing the count of warp and filling) to the same extent that the fibers would arrange themselves if subjected to a full washing in a laundry. With this principle in mind, the Sanforizing process was developed.

The Sanforizing process is, broadly stated, one for predetermining the superficial dimensions of a fabric, and at the same time conserving, and usually improving, its finish. It may be so applied as to shrink or to elongate either the warp or the filling, or both, in any desired combination of dimension change. For example, any one of the following dimensional effects may be attained: (1) Warp shrunk, filling shrunk; (2) warp shrunk, filling unaffected; (3) warp shrunk, filling elongated; (4) warp unaffected, filling shrunk; (5) warp unaffected, filling elongated; (6) warp unaffected, filling unaffected; (7) warp elongated, filling shrunk; (8) warp elongated, filling unaffected; and (9) warp elongated, filling elongated.

In the great majority of cases preshrinkage is an end in view; and discussion will therefore be confined to that aspect of the process. The procedure consists of the following: (*a*) Precisely determining the changes that take place in the longitudinal and transverse dimensions of the fabric when it is subjected to a full laundry wash; (*b*) applying the process to bringing about these dimensional changes; and (*c*) giving to the fabric by the operation of the process an enhanced commercial finish.

Testing the Fabric

The standard method of determining the changes that take place in the dimensions of a fabric when subjected to a full laundry wash is as follows: A 20-in. test sample is cut from a web of the cloth to be shrunk, and 18-in. in both warp and filling is marked off accurately on it in indelible ink. The sample is subjected to normal laundry washing treatment: a 5-min. rinse in either cold or warm water, preferably in water at 140° F.; the water is drawn off; hot water and sufficient soap are added to give a good running suds, which is run in the wheel for 30 min., and then drawn off; a 10-min. rinse is given in clear water at 140° F., followed by two 5-min. rinses, each time drawing off the previous rinses before adding fresh water; a final 5-min. rinse with water containing about one-eighth of 1% of 56% acetic acid is given. This is done to neutralize thoroughly any small traces of alkali remaining in the goods. After washing, the sample is squeezed by hand without stretching and placed on a screen in a dry room. After drying, the sample is dampened slightly with a spray of water and pressed with a hot iron. During the pressing, care is taken not to rub the cloth, as is customary in hand ironing, but simply to press out and smooth the cloth without stretching.

The changes that take place in the marked 18-in. sample are noted and are recorded on a card for both warp and filling in terms of inches and decimals of an inch per yard of fabric. These changes are called the "PWS" or "potential wash shrinkage" of this particular fabric, elongation being marked with the plus sign and shrinkage with the minus sign. This record serves for setting the Sanforizing machine so that it will change the warp and filling dimensions of the material to be treated by the amount that has been indicated by the sample test.

A similar test piece is cut from the finally treated fabric to determine whether the process has been accurately carried out. It is, as a rule, not difficult to attain stability of a fabric to within $\frac{1}{4}$ in. per yd. in both warp and filling.

Sanforizing Machines

The process, in its essentials, can be carried out with various species and types of apparatus. The machinery

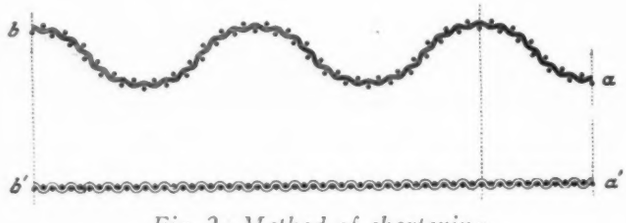


Fig. 2. Method of shortening the fabric

comprises a combination of types which has, after extensive tests, demonstrated efficient adaptability and adjustability economically to satisfy the requirements and solve the problems presented by a wide range of fabric conditions. The machine and its operation (see Fig. 1) may be briefly described as follows:

The fabric to be treated (marked *W*) is brought to the machine at *A* on a roll or loose in a truck. The material is passed over one or more bars to open it and eliminate wrinkles and is seized at *B* by two grasping (or feeding) rolls that are driven through a variable-speed gearing *C* from a main-line shaft *D-E*, which shaft is driven by a motor *F*. The motor, driving through one shaft, insures synchronization throughout the machine. The material passes from the feeding rolls *B* to a tenter *I-J*, and is fed onto pins or into other gripping devices at *I*, which are mounted on the chain of the tenter, the tenter chain being driven from the main shaft at *K*. If it is desired to shrink the goods in the warp, the variable-speed gear *C* is adjusted to feed the goods to the tenter at a faster rate than that of the tenter chain, with the result that the material, seized by the tenter pins or clamps, is slack and undulated in the direction of the warp. The algebraic differential between material progresses through the tenter the tension thus imposed on the filling threads tends to straighten them, and to cause a largely increased accentuation in the weave undulations of the warp threads. This action shortens the fabric, as illustrated in Fig. 2, in which *ab* shows a cross-section along one of the warp threads near the middle of the fabric before the filling threads are stretched, for a distance of, say, 2 in. in a straight line. As the filling threads are pulled they tend to become straight, causing the warp threads to assume an accentuated crinkle, as shown between *a'* and *b'*. All of the wave in the fabric between *a* and *b* has now been converted into increased undulations or crinkles in the warp threads. There are the same number of filling threads between *a'* and *b'* as there were originally between *a* and *b*, but the fabric itself is shorter by an amount equal to the excess feed.

The assumption of this new relation by the warp and filling threads is greatly facilitated by the moisture from the spray at *L* and *M*, and may be still further assisted by steamers at *N*, through which just sufficient steam may be supplied to properly diffuse the moisture through the fabric.

The tenter chains carrying the cloth holders (pins in

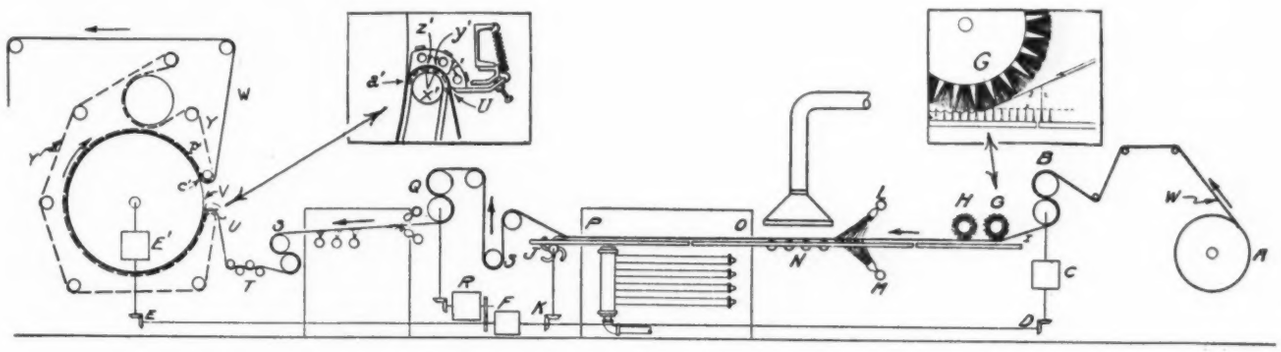


Fig. 1. Diagram of Sanforizing machine and its operation—Inserts show functions of feedwheel and part of equipment where preshrinkage in the warp is returned

the velocity of feed at the feed rolls and the velocity of the tenter chain is the measure of warpwise dimensional alteration to be attained in the tentering machine.

A vertically floating revolvable brush is shown at *G*. In starting, the goods are passed under this brush and on the pins close to the selvage edge of the material; the brush of its own weight drops until the goods are stretched taut between the brush *G* and the feed rolls *B*. As the machine is started and the pins move forward, the brush *G* drops to a point where in the small triangle *xyz*, the side *y* is to the side *x* as the velocity of the surface of the feed roll *B* is to the velocity of the tenter chain. As the chain with the material on the pins passes from under the feed brush *G*, the excess material takes the form of ripples somewhere between the points and the bases of the pins. A second vertically fixed brush *H*, rotated by the passing pins, presses the goods down on the pins.

Preshrinking the Warp

The material passes on the tenter past the brush *H* and is moistened from above or from beneath (sometimes both) by water sprays *L* and *M*, which may be operated to deliver any desirable quantity of moisture, and at about this point the tenter chains diverge so that a slight stretch is given to the filling threads. As the this case) diverge just sufficiently to cause the fabric to become smooth, and completely take up the excess material fed to the machine at *B*. Forward movement of the chains now carries the fabric into a drying chamber *O-P*, where the moisture is driven out, so that dry fabric emerges from the chamber at *P*. This drying is very rapid, as the moisture added by the sprays *L* and *M* and the steamers *N* is only about 10% of the weight of the fabric.

As the fabric emerges from the drying chamber, it is doffed from the pins by a high-speed revolving starfish-shaped wheel at *J*. At this point the material has been preshrunk in the warp and stretched in the filling.

The material is carried away from the tenter at *J* by a second pair of grasping rolls *Q*, which are operated through a variable-speed drive at *R*, which drive is direct from the main shaft *D-E*. The compensating roll *S* controls the variable-speed drive *R* so that the surface speed of the grasping rolls *Q* just corresponds to the amount of material delivered from the tenter at *J*. No undue tension is imposed on the material between *Q* and *J*.

Modified Palmer

The material now passes from the grasping or feed rolls *Q* to a modified Palmer dryer equipped with a

rather thick woolen belt and with other important new adjuncts to be described. Immediately after leaving the feed rolls Q a spray is applied, generally to the under side of the fabric, and sometimes steam also with the spray, to soften it and the adhesions that may have occured in it from the use of sizing. Only sufficient moisture is added to render the material pliable and soft. This softening of the material as a whole causes a decrease in the width of the fabric. If the fabric has been tightly stretched in the tenter, the width shrinkage under the influence of the moisture at Q is considerable. The material is drawn away from the feed rolls Q at U. The speed at which the material is fed into the modified Palmer at U is in excess (say, about 6%) of the speed of delivery of the material at Q. This causes a slight stretching of the material between Q and U so that it is desirable to place at S two rollers mounted on ball bearings which are revolved by the fabric and which tend to keep the filling straight. During the passage of the fabric from Q to S, the moisture and steam, together with the tension, exert a narrowing effect on the material. To prevent the fabric becoming too narrow, a series of adjustable scrimp bars or expanders is inserted at T, which may be so operated as to hold the goods out so that they enter the modified Palmer feed the exact desired width.

At this point U, however, the warps have become slightly straightened from their condition of high crinkle when the web was delivered to the point U, and it is now not only necessary to dry and finish the material, but also desirable in the case under consideration to put back the preshrinkage in the warp. This is accomplished as follows:

Referring to Fig. 1, the differential between the surface velocity of the large heated drum of the modified Palmer and the rate of input of fabric at B (to the tentering machine) is the measure of the final, or net, warpwise preshrinkage attained. A variable-speed drive from the main shaft is provided at E', for adjustment of this differential. If the preshrinkage (warpwise) imposed in and by the tentering machine is to be exactly restored in the modified Palmer, the surface velocity of the modified Palmer will be adjusted to equality with the velocity of the tenter chain. If, however, it is intended to impose, in the modified Palmer, a larger percentage of warpwise preshrinkage than that produced in the tentering machine, the velocity of the drum will be by so much the less. The large drum drives the belt p', with the result that the surface of the belt in contact with the large drum assumes the same speed as that of the drum. The material W, having passed through the adjustable scrimp bars T, runs onto the belt at U, at which point the belt is flexed around a relatively small revolving cylindrical roll x', thereby stretching the surface of the belt at y' between the points U, y', and a'.

It may be assumed for purposes of this exposition that the median longitudinal plane Z' of the belt travels at constant velocity equal (or very nearly) to the surface velocity of the large drum. At y', where the belt is abruptly flexed, the speed of the outside surface of the belt is to the mid-section speed of the belt as the radius y'-x' is to the radius z'-x'.

The material W is caused to adhere frictionally to the surface of the belt between U, y', and a' by the light pressure of an electrically heated iron k' which rests on the fabric mostly by its own weight, and which extends across the full width of the machine in short sections of 4 in. or more. The material W on coming to the point a' is fed at the higher velocity, as stated, to the surface of the hot drum, which is moving at the slightly lower velocity, approximately equal to that of the mid-section Z' of the belt, and the material would at this point wrinkle were it not for provision for maintaining fixity of the web to the belt surface up to, at, and through the line where the curvature of the belt reverses; these being, in actual apparatus, the maintained pressure of the irons k' and the location of the nip-line between roller X' (which is hung so as to press toward the large drum) and the large drum. When the belt reverses its flexure, its supporting surface shortens longitudinally at a', and inasmuch as the material W is held practically fixed to the belt surface, it also shortens with the belt surface and travels along between the hot drum and the belt until it emerges at point c'.

Inasmuch as the velocity of the surface of the drum and of the belt at c' is less than the velocity of the fabric feed at B by an amount equal to the shortening that is desired in the fabric, the fabric at c' is shortened by exactly this amount; the heat from the hot drum has

TABLE I. CHARACTERISTIC RUNS ON SEVERAL SAMPLES

Material			Before Sanforizing			After Sanforizing		
				Shrinkage in			Shrinkage in	
Name	Count in Gray	Color	Width, In.	In. per Yd. Warp	Filling	Width, In.	In. per Yd. Warp	Filling
Broadcloth	164 × 84	White	36	2.10	0.25a	36½	0.00	0.10a
Broadcloth	152 × 80	White	35¾	1.95	0.15	36	0.25a	0.15
Broadcloth	128 × 68	White	36	2.10	0.25a	36½	0.00	0.10a
Broadcloth	108 × 52	White	35¾	1.35	0.50a	36½	0.18a	0.00
Broadcloth	136 × 60	Blue	34½	1.80	0.00	35¼	0.12a	0.00
Broadcloth	136 × 60	Tan	35	1.65	0.35	35½	0.15a	0.10a
Broadcloth	136 × 60	Green	35½	1.80	0.25	35½	0.12a	0.05a
Oxford	88 × 40	White	33¾	0.70	0.20	35½	0.20a	0.06
Madras	80 × 80	Blue	36	1.65	2.20	35½	0.15a	0.30
Madras	80 × 80	Tan	36	1.90	2.00	35½	0.10a	0.50
Madras	80 × 80	Green	36	1.87	1.95	35½	0.25a	0.30
Flannel	.....	Blue	36	1.65	0.95	35½	0.25a	0.15
Flannel	.....	Tan	36	1.95	0.90	35½	0.00	0.05
Flannel	.....	Gray	36½	2.15	0.50	35½	0.33	0.00
Army poplin	112 × 60	Olive	35½	0.85	0.65	35½	0.35a	0.00
Chambray	80 × 72	Blue	36½	1.40	1.75	35½	0.18a	0.30a
Basket weave	76 × 76	White	33½	0.90	0.70a	34½	0.35a	0.40
Basket weave	76 × 76	White	33½	1.00	0.90a	34½	0.45a	0.30
E. & E. madras	80 × 80	Blue	35½	1.60	1.50	35	0.12a	0.00
E. & E. madras	80 × 80	Tan	35½	1.55	1.75	35½	0.00	0.10
E. & E. madras	80 × 80	Green	35½	1.60	1.65	35½	0.05a	0.15
Fancy broad	.....	Blue	35½	0.95	2.15	35½	0.40a	0.75
Fancy broad	.....	Tan	35½	0.95	2.00	35½	0.00	0.65
Fancy broad	.....	Green	35½	1.00	2.15	35½	0.00	0.75
Woven madras	80 × 80	Blue	35½	2.05	1.55	35	0.05a	0.12
Woven madras	80 × 80	Tan	35½	1.85	1.30	35	0.15a	0.25
Fancy madras	80 × 80	Blue	35½	2.55	1.05	35½	0.15	0.05
Fancy madras	80 × 80	Tan	35½	2.60	0.85	35½	0.00	0.12
Fancy madras	80 × 80	Green	35½	2.55	1.00	35½	0.10a	0.12

a Denotes a gain.

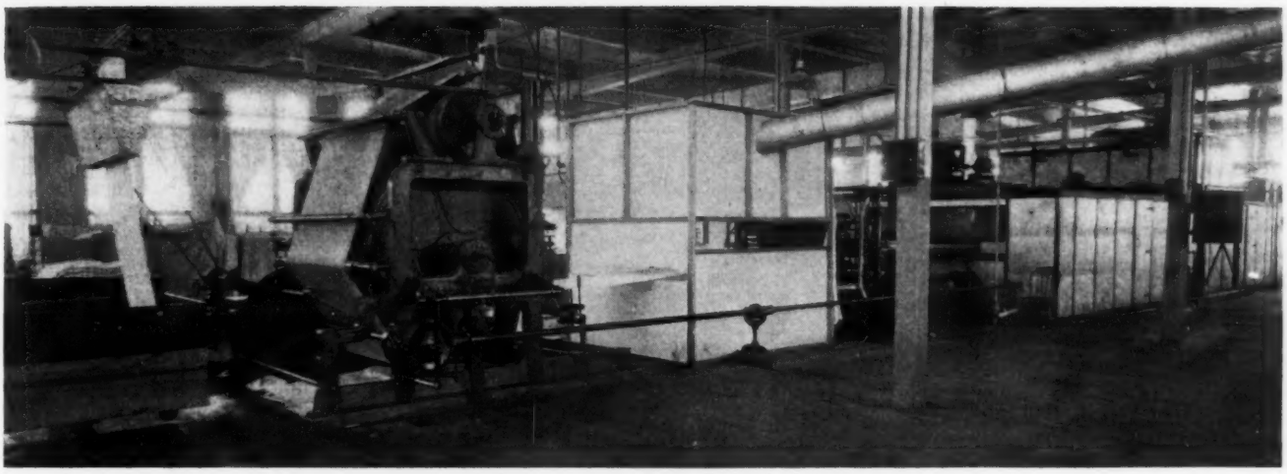


Fig. 3. Sanforizing machine in operation

dried the fabric so that it emerges at c', containing only a small amount of moisture, generally in the form of steam vapor.

Appearance and Handle

The fabric during these operations has become shortened in length and decreased in width. The weaving undulations in the yarn have become accentuated, resulting in a "bead" that gives increased diffusion of reflected light. The drying of the fabric against a polished hot drum has, moreover, given to the fabric a smoother appearance and better "hand" than it had originally. It will further be noted that this process disturbs to only a small extent the fibers of the yarns, in consequence of which and because of the increase in yarn crinkle a diffused luster is obtained. This is a natural luster which is ordinarily enhanced by the subsequent dampening and ironing that occur during the manufacture of a garment.

There may be or there may develop, of course, situations in which the modified Palmer and its adjuncts will be sufficient to perform the shrinkage operation without the use of the Sanforizing tenter frame. In the Palmer machine, modified and equipped as described, if a belt of increased thickness is employed, an increase in the rate of feed of fabric at U will be obtained, while the rate of delivery of the fabric from the modified Palmer will remain unchanged; but whatever the thickness of the Palmer belt and the resulting ratio of input fabric length to output fabric length, that ratio is fixed, and will be appropriate to only one fabric, and will serve only one predetermined purpose, for the inflexibility of this portion of the complete apparatus is contrasted with the inevitable non-uniformity in most carefully woven fabrics. However, it has been found, in practice, that for the purpose of handling a large variety of fabrics previously finished in a large variety of ways, the combination of the whole machine, as shown in Fig. 1, has a much greater range, capacity, and adjustability than the section between the second feed rolls Q to and including the modified Palmer. The tenter prepares the material for the first operation in connection with the modified Palmer, straightening the filling threads (if previously curved), bringing all of the fabric to the most convenient and constant width, and at the same time shrinking warpwise to almost any degree desired (up to 3½ in. per yd. in the present machinery).

Referring to Fig. 1, the ratio of the outside surface speed of the belt at y' is to the mean speed of the belt as the distance y'-x' is to the distance x'-z'. For example, if the cylindrical roll x' has a radius of 1.5 in., and an extra heavy belt 0.34 in. thick be used, the distance x'-z' then becomes 1.5 in., plus 0.34/2 in., which equals 1.67 in. The distance y'-x' becomes 1.5 in., plus 0.34 in., which equals 1.84 in. The shrinkage or the shortening of the fabric on passing to the drum, expressed in terms of percentage, will be:

$$\frac{1.84 - 1.67}{1.84} \times \frac{100}{1} = 9.24\%.$$

This, multiplied by 36, gives a shrinkage of 3⅓ in. per yd. of fabric. If the large drum is made relatively smaller, the surface of the belt against the drum becomes more compressed, resulting in a further shortening of the fabric held between the belt and the drum.

To operate individually the apparatus comprising only that from the second feed rolls Q to and including the modified Palmer, so that fabrics may be shrunk in warp and filling to a predetermined extent, it is only necessary that the belt of the machine, as illustrated, be sufficiently thick in comparison with the cylindrical roller x' to take care of the maximum shrinkage that it may be desired to impose on a fabric. Smaller degrees of shrinkage or shortening of the fabric are obtained merely by the adjustment of the variable-speed drive R controlling the speed of the feed rolls Q, so that the surface speed of the feed rolls Q is in excess of the surface speed of the hot drum by an amount equal to the desired shrinkage. If the speeds were exactly equal, there would be no shortening of the fabric; the latter would simply be stretched between Q and U an amount equal to the amount that it is shortened between U, a', and c'.

Table I gives the data of characteristic runs of different fabrics in which it will be noted that while the warps are, in all the examples, shortened during the Sanforizing process, the material in the filling dimension has in some cases been lengthened. As hitherto ascertained, rates of production, varying with the class of goods, on the machine equipment described are as follows:

Print cloth, 60 to 90 yd. per min.
Broadcloth shirtings, 60 to 80 yd. per min.
Duck, 8-oz., 30 yd. per min.

Three men are required to operate the equipment. Electrical controls at either end of the equipment are provided for the main drive of the entire machine and for the moisture sprays.

Care and Adjustment of Long-Chain Quilling Machine

By Ghent R. Robertshaw

◆ *The accompanying article, dealing with the maintenance and operation of the long-chain quilling machine, is contributed in response to a published request from one of our subscribers. It is hoped that the contents of the article will be of value not only to this man but to a great many of our readers.*

THE long-chain quilling machine, like all other textile equipment, requires more or less constant attention. In some plants high speed and high production are so emphasized that the quality of the product is practically ignored. Of course this is far from good practice; and the importance of proper oiling, repairing, and cleaning, being significant factors in regard to the development of good quality, should not be overlooked.

Probably the most important point that is neglected is that of properly oiling the various parts of the machine. All revolving or reciprocating parts should be carefully lubricated at definite intervals. A small quantity of oil applied in the proper place will be more beneficial than a promiscuous "pouring" of the lubricant in the general direction of the desired spot. The swiftly revolving parts should be oiled twice daily; those parts that move very slowly, once a week; and the other parts in proportion.

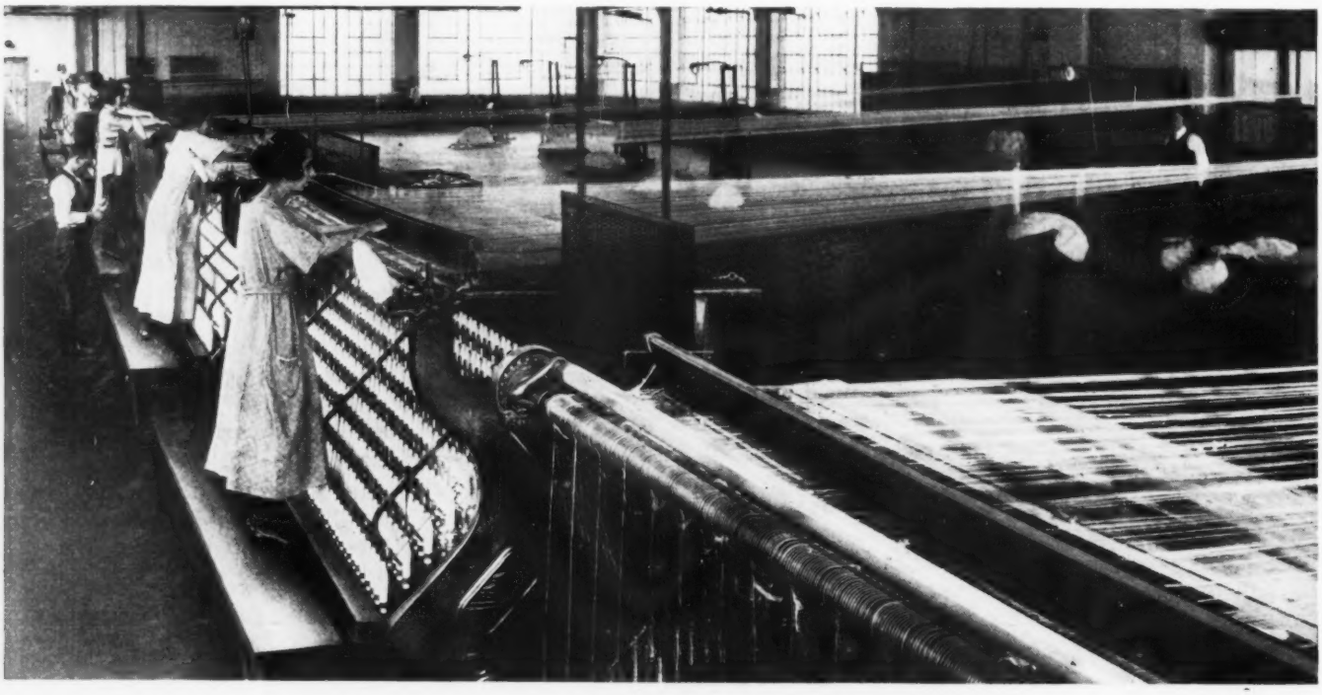
The importance of proper repairing cannot be overstressed. Regardless of the nature of the breakdown or damage, repairs should be made as promptly and thoroughly as circumstances permit. Proper repairing, as well as proper oiling, adds to the quality and quantity of the work.

The cleaning of the machines should be regularly and carefully attended to, especially in regard to removing the lint and oil that collect around or near the parts with which the yarn comes in contact. Other parts, however, should not be neglected.

Operation of the Machine

The chain should be passed around the tension rolls about four times. On these rolls there are two small straps and two levers to add more tension. All the tension that the yarn can carry should be applied. The size of the quill will, to some extent, govern the amount of tension that can be applied, a small quill requiring less friction than a large one. Great care must be taken when the bobbins are applied to the spindles, it being essential that they fit closely. Tight-fitting bobbins should be reamed out.

The operation of the builder motion on this machine is comparatively simple. In order to modify its action to accommodate different-sized quills, it is only necessary to change the position of the small piece on the stud. It is moved *in* for small quills and *out* for the larger type.



Tension of the yarn on these quilling machines should be carefully regulated

Village *of Whitney Mfg. Co.* Modernized

Houses occupied by overseers

Typical house for mill operatives enhanced by lawn and shrubbery

Whitewashed houses of the 1885-1905 period similar to the original houses at Whitney

A portion of Whitney (S. C.) Mfg. Co. mill village

CONSPICUOUS among the many southern mills that have completely revamped their villages in recent years is the Whitney (S. C.) Mfg. Co. About three years ago, under the leadership of Victor M. Montgomery, treasurer, this company launched a village modernization program that was completed early this spring. Only those who remember the drab and unsightly appearance of the old village, which was typical of the period between 1885 and 1905, can appreciate the degree of improvement which the Whitney village has undergone.

Several years ago TEXTILE WORLD described a somewhat similar modernization program that was carried out in the village of the Pacolet (S. C.) Mfg. Co., which has been made one of the most attractive mill communities in the South. Both the Pacolet and Whitney developments were planned and carefully watched by Victor Montgomery who appreciates very keenly the importance of good living conditions in textile villages.

Construction work on the new houses was handled by the regular mechanical and carpentry force of the mill under the direction of an experienced builder who had been in charge of the Pacolet project. Four separate grading jobs, three of which required steam shovels, were necessary to level and terrace the ground preparatory to the actual construction work. As much of the old material as could be used was salvaged and utilized as sub-flooring in the new houses.

There are 141 cottages in the village, of which nearly half are five-room houses, while there are eight duplex houses of three rooms to each side. The single houses range in size from three to six rooms each and are painted several different colors to avoid sameness. All houses are provided with sewerage facilities, bath rooms and electric lights, and are made more comfortable by the use of sub-flooring and storm siding. Hot water tanks were installed at the option of the occupant. Some houses have plastered walls while others are finished inside with a composition wall board.

Batteries of garages are located at convenient points throughout the village and are rented to operatives at $1 per month for each compartment. All village streets have been graded and improved.

The policy of the mill has been to purchase and sell shrubbery to operatives at cost rather than to plant the cottage yards at the company's expense. Many of the shrubs were brought from the nursery operated by Pacolet Mfg. Co. The village is divided into ten sections of from 12 to 16 houses each and prizes are awarded for the most attractive yards in each section.

Cooperative Effort Called Logical Approach to Textile Research

◆ *Facilities for textile research now available and the scope and character of work being carried on at present are shown by a survey conducted for the Textile Foundation by the U. S. Institute for Textile Research. Results of the survey are summarized in the Nov. 1931, Bulletin of the Institute; and some of the more important findings given in the summary are reprinted in the accompanying article.*

RESULTS of a survey completed recently for the Textile Foundation by the U. S. Institute for Textile Research, Inc., show that in units engaged in research, the textile industry compares favorably with other leading industries, but in total annual expenditures for research it is still among the backward industries. The survey indicates further that fundamental research is generally acknowledged to be one of the textile industry's greatest needs, and that there are facilities which should be ample to meet the present apparent demand for research. In view of these facts, cooperative effort properly coordinated through some central agency representative of all interested groups appears the logical means of providing the type of research which is needed for the development of new products, and new uses and new adaptations for old products.

The survey mailing list covered 1,435 industrial concerns, commercial laboratories, educational institutions, and government departments, of which 661 replied and 267 reported that they were engaged in textile research.

The survey compares very favorably in percentage of replies, and to the credit of the textile industry in the number of concerns engaged in research, with a somewhat similar survey of 5,000 concerns in 40 different industries which was conducted in 1928 by the Division of Engineering and Industrial Research, of the National Research Council.

In the industrial group 1,124 questionnaires were mailed; and 488 replies were received, 159 reporting research.

This group includes only seven concerns which are not solely identified with the manufacturing branch of the textile industry; and these seven, which are users of textiles, add to the statistical data only equipment and personnel actually engaged in textile research. Of the 159 units of this list 132 are textile manufacturers and machine builders.

Research Facilities

Reported as engaged in scientific research are 179 laboratories and 860 scientists; in manufacturing research 179 experimental plants and 476 graduate engineers or textile technologists; in research in testing methods 191; and in economic research 89, with a total of 126 economists or statisticians.

Facilities for chemical research are considerably greater in the aggregate in all groups than for any other listed type of research, and particularly so in the industrial and commercial groups. Comparatively few mills that are not engaged in chemical processing report activities in research; and commercial laboratories specializing in chemical research predominate. On the other hand, subjects of researches reported by all groups are 56.68% physical and only 31.16% chemical. The percentage relation is about the same for researches in progess and for researches regarded as fundamental. The allowable inference is that the industry is weakest in research other than chemical, both as to facilities and personnel. The educational and government groups are relatively strong in physical research, and a large proportion of the physical facilities and scientists of those groups can be made easily available to the textile industry.

Most of the textile schools are well equipped with experimental plants for manufacturing research, and with equipment for research in testing and in testing methods. Their facilities and instructing staffs, however, are, as a rule, too closely confined to scholastic work to allow much opportunity for scientific and fundamental research, or its direction. Plans by which more of this equipment and qualified personnel could be made available for research along scientfic lines would redound to the advantage of the industry, particularly if it provided provision for graduate research work.

Laboratory equipment reported available for all classes of research covered by the questionnaire is definitely indicated to be considerably in excess of present demand. This is particularly true of laboratories reporting in the commercial and educational groups, and also of those of certain government laboratories, notably the Bureau of Standards. Much of this equipment is idle because of lack of demand for textile research and of financing which would provide for its utilization by attracting a larger staff of scientistis and qualified technologists. In addition to the type of laboratories classified in the questionnaire under scientific research as chemical, physical, and microscopical, a number of commercial, educational, and government reports note that equipment is available for research in biology, biochemistry, physical chemistry, genetics, and other of the modern sciences.

Restriction of this survey to facilities actually engaged wholly or partially in textile research prevents inclusion of research facilities of other industries that have produced important fundamental knowledge applicable to textiles, and that may become sources of even more valuable basic facts for the textile researcher in the future. The dye and chemical industries naturally are thought of first in this connection, but the rayon researcher realizes that the next important discovery in cellulose may come from research of the pulp or paper industries, or, possibly, from the patient study of some

scientist whose hobby is pure research. The true scientist realizes that the interdependence of fundamental research is far greater than that of industry. In a scientific sense many of these non-textile research facilities are as truly textile as those wholly engaged in textile research.

Economic research is reported by 89 of all groups, having available for such studies 126 statisticians or economists. Only 55 of those reporting this type of research are directly connected with textile manufacturing or merchandising. Much larger facilities undoubtedly are available for various types of economic textile research than are definitely reported in this survey as actually engaged therein.

That 130 of the 159 concerns of the industrial group reporting research should be located in the New England and Middle Atlantic States is not surprising, in view of the fact that this distribution of research activities is closely proportional to the number of mills located in those sections as compared with those in the whole country.

Character and Scope of Research

The 584 subjects of research reported by 85 concerns are 57% physical, 31% chemical, and less than 10% economic. Physical subjects are largely in excess of chemical in all but the commercial group. This is surprising, because in all groups chemists available for research are far in excess of physicists. Of 137 researches reported in progress by 30 concerns, the percentage of chemical and physical subjects is about the same as for all research reported, but of those that may be classed as fundamental the number of chemical and physical researches reported in progress is almost identical.

This impels the inference that research in chemical subjects is discouraged by realization that greater fundamental knowledge is needed for which adequate financing has been unavailable; also that, while fundamental research is an equal need on the physical side, this fact has not yet checked individual efforts to solve the industry's numerous physical problems with the tools and facts available.

With so many widely scattered and unrelated laboratories engaged in research, many of them upon a private basis, it is not surprising that there should have been a considerable duplication of effort upon identical or similar subjects. Duplication of effort in pure research is to be commended, and it is not necessarily wasteful in other types of research. Many industrial and commercial laboratories, however, and most educational and government laboratories desire to avoid unnecessary duplication of effort as far as possible; and this can be prevented in large part by contact through some central association of those engaged in research, and by regular publication of research bibliography.

More wasteful than duplication of researches in progress is the duplication of completed research work. A considerable number of the subjects listed in "Reported Researches" are of this character. They are regrettable evidences of the present lack of reliable textile technological literature, and of a central library which is a source of both textile research literature and information.

A very large part of the researches reported by the textile schools, institutes of technology, and a few other educational institutions, represents undergraduate and graduate thesis work for degrees. Nearly all of this work is praiseworthy as to subject, and would constitute a valuable addition to the industry's new knowledge if more of it were carried to completion. Unfortunately, comparatively few of these theses cover completed research. This is also true of most of the college research conducted on the fellowship plan. In the case of the latter, however, the cause is most often inadequate financing.

The list of reported researches which represent thesis work of textile school and college students indicates that the selection of live subjects by some central research body might prevent unnecessary duplication of effort, and make studies more resultful. Selection of talented students for continuance of their researches on the graduate fellowship plan is also indicated as worthy of consideration, as this not only supplies effective research at nominal cost, but has the merit of training a supply of reasearchers for later work in industry. However it needs the assurance of adequate financing to encourage the worker, and also the cooperation of a central textile research body in advisory and correlating capacities.

Only four concerns or associations reporting economic research subjects are strictly textile, although several other economic researches reported by commercial concerns and colleges were financed by manufacturers or

their associations. In proportion to reported facilities for economic research the number of concerns reporting and the number of subjects reported are much smaller than for other types of research. This does not prove that need for such research is not vital; but it does demonstrate that interest in it is not well defined or vital, and indicates that much educational work will be necessary to arouse the industry to its need and value.

Fundamental Research

A total of 54 researches are classified as fundamental, of which 10 are reported by the industrial, 5 by the commercial, 25 by the educational, and 14 by the government group. Of the total, 28 are physical and 19 are chemical in character, and of the remaining 7, the majority are both chemical and physical. In both subject and number this group of reported researches inadequately reflects the industry's need of fundamental research, yet is sufficiently large to demonstrate that the need is very generally realized.

It seems significant that most of the research that is not fundamental is private in character, while that which is fundamental is largely cooperative through associations, or on the fellowship or associate plan through educational institutions, commercial laboratories, or government bureaus. Fundamental research is so uncertain of being resultful, and is likely to be so protracted and expensive, as to discourage any but the largest private concerns from undertaking it. For

the textile industry particularly, with its more than 7,000 individual units, cooperative effort is the logical means of providing for fundamental research.

It is vitally important that accurate and comprehensive bibliography and abstracts of outside researches having possible textile application be made available to textile researchers. This and promotion of fundamental research are two of the major activities of U. S. Institute for Textile Research, Inc.

With such large available supplies of facilities and skilled personnel in commercial, educational, and government laboratories, their utilization in cooperative research—fundamental or otherwise, and properly coordinated through some central agency fairly representative of all interested groups—would seem to be the quickest and cheapest path toward the desired goal, the ultimate ideal being a central group of laboratories directed and financed cooperatively by the industry.

Cotton Yarn Tests Made Comparable by Use of Correction Factors for Regain

◆ *Daily weight and break tests made by cotton spinners have little value as regards comparison of one with another unless they have been made under exactly the same conditions of temperature and humidity or have been corrected to these conditions. The accompanying article, reprinted through the courtesy of Saco-Lowell Shops, contains much worth-while information and includes a table of correction factors which should facilitate the reduction of different tests to a common basis.*

TABLE 2. WEIGHT AND BREAK TEST OF 20's YARN

Humidity	Beginning of Test	End of Test
Dry bulb	68	69
Wet bulb	58	58.8
Depression	10	10.2
Humidity	54°	54°

Average Humidity 54°

Sizings — Weight	Number	Break
50.4	19.84	90
50.6	19.76	90.5
50.6	19.76	89
51.2	19.53	91
49.8	20.08	88
49.6	20.16	87
49.7	20.12	88
48.9	20.45	86
400.8	159.70	709.5
50.1 Av. Grains	19.97 Av. No.	88.6 Av. Breaks

19.97 × .99 = 19.77 Corrected Number
88.6 × 1.03 = 91.26 Corrected Break
19.77 × 91.26 = 1804 Constant
1804 ÷ 20 = 90.02 True Break Basis Standard Number.

THE effect of regain on the strength of cotton yarns has been a favorite topic of discussion among mill men for the last ten years. The laws governing the relation of the breaking strength to regain are now well understood, and in many mills practical use is made of them. It is quite safe to say that the spinner who attempts to keep records of his daily weighings and breaks without adjusting the observed or test figures to a standard basis will find little consistency between results secured on successive days, as the fluctuations in the humidity of the spinning room will prevent any uniform regain in the yarn.

Corrections Quickly Applied

There are two simple ways to correct this source of error in making weighings and breaking tests. One method is to have a testing room where the humidity can be controlled at 65% relative humidity at 70° F., where the samples to be tested can be exposed to this stabilized atmosphere for 4 hr. The other and easier way is to adjust the observations made under spinning room conditions to equivalent weights and strengths at standard regain.

This can be easily accomplished by means of Table 1. In order to use this table, the humidity of the spinning room is determined both before and after the test by means of a sling psychrometer. The two results are averaged and the relative humidity determined from a suitable table. The weighings are then averaged, and the average count is found from the yarn table. The average break is calculated from the observed breaks.

TABLE 1. FACTORS TO CORRECT COUNT AND BREAKING STRENGTH OBTAINED AT VARIOUS HUMIDITIES TO AN EQUIVALENT COUNT AND BREAK AT 6½% REGAIN

Per Cent R. H. at Time of Weighing and Breaking	Size Constant Col. 1	Break Constant Col. 2	Per Cent R. H. at Time of Weighing and Breaking	Size Constant Col. 1	Break Constant Col. 2
40	.98	1.09	60	1.00	1.00
41	.98	1.09	61	1.00	1.00
42	.98	1.08	62	1.00	.99
43	.98	1.08	63	1.00	.99
44	.99	1.07	64	1.00	.98
45	.99	1.07	65	1.00	.97
46	.99	1.06	66	1.00	.97
47	.99	1.06	67	1.01	.96
48	.99	1.05	68	1.01	.95
49	.99	1.05	69	1.01	.95
50	.99	1.05	70	1.01	.95
51	.99	1.04	71	1.01	.94
52	.99	1.04	72	1.01	.94
53	.99	1.03	73	1.02	.93
54	.99	1.03	74	1.02	.92
55	1.00	1.03	75	1.02	.92
56	1.00	1.00	76	1.02	.91
57	1.00	1.02	77	1.03	.90
58	1.00	1.01	78	1.03	.90
59	1.00	1.00			

Reference to this table shows that there are two sets of factors. Those in column 1 are used to correct the average number at room humidity to the number at standard regain; the factors in column 2 are used in the same manner to correct the observed average break. Multiplying the correct break by the corrected number gives the true strength constant, which when divided by the theoretical number will give the true break of the theoretical number. This last figure, in conjunction with the theoretical constant, serves as the basis of comparison for the yarns as made from day to day.

All tests of weights or breaks made for routine purposes, or during operating tests involving weight or break, can be reduced to a basis which will permit of interpretation with some degree of accuracy and consistency. Tests which do not take into consideration the effect of variations in humidity are, to say the least, unsatisfactory as regards consistency of interpretation or reliability. In order to illustrate the use of the table, data from recent tests on 20s yarn is presented in Table 2.

It is suggested that copies of this table be kept in the spinning room or laboratory where the yarn is tested, and all weighings be adjusted to the standard conditions of 65% relative humidity and 70° F., which is equivalent to a 6.5% regain on ordinary yarns when exposed to standard atmosphere for 4 hr.

The Plant Physician *is a Money Saver for Textile Mills*

*By Dr. R. P. Knapp**

Medical Director, Cheney Bros., So. Manchester, Conn.

EXCEPT for the victims, there is probably no one so closely associated with industrial accidents as the plant physician. He sees them first and last, so to speak. It would seem, therefore, that he might contribute something toward their prevention.

In some industries there is considerable hesitation in allowing the physician to collaborate in reducing accidents, as it is believed that this field is confined to the safety and sanitary engineer; but I believe this is a mistaken idea. In the plant which I represent, I have seen lost-time accidents show a very decided reduction through the cooperation of a committee composed of the industrial relations supervisor, the safety engineer, the supervisor of the benefit and statutory accident department, and myself.

Each accident is discussed at the weekly meetings of this committee. First, the cause of the accident and the manner in which it arose are taken up, and then an attempt is made to determine whether it was purely accidental, whether carelessness alone was the cause, or whether a combination of both should be considered. Frequently we find that carelessness was the sole cause and we inform the injured man to that effect. Of course this method is like locking the barn after the horse is stolen, but we feel that by such an analysis we can get a more accurate idea of what is causing our accidents and be in a better position to guard against them.

I believe that the best manner of attack is first to tell the worker in the medical department, when he is examined for employment, that there are hazards attached to any job involving machinery, and that he must be careful or he will needlessly lose time, which represents money to himself and his family. When he goes to work, the foreman should take him to the machine and point out the actual dangers that lurk in the moving machinery. He should also be told to report any injury immediately to the foreman.

Furthermore, the safety engineer in making his rounds should see that the machines are properly guarded and that the operator is taking the proper precautions to protect himself against injury. If the guarding of the machine is found to be faulty, immediate attention must be given to correct this condition. If the operator is not observing the proper cautions, he should be warned with the penalty of a lay-off should he continue to expose himself needlessly to accidents.

If, after such precautions have been taken, an operator is injured, one feels that he can with some justice be reprimanded. Unfortunately, however, it is not quite so simple. In many cases familiarity of the operatives with the process has bred contempt, and the dangers for the time are disregarded and are only brought back to the individual when he is caught by some moving part and hurt. There is a type of person who is apparently born careless. He is roughly to be described as the clumsy worker, born with poor judgment; and it would seem that such an individual were better out of the employ, as he is not only a bad risk but a bad example.

Pre-Employment Examination

At the time of the pre-employment examination, I believe it well to ascertain the extent and exact nature of the accidents to which he has been subjected in his other employments. If he seems a bad risk in this respect, it may be an economical gesture not to employ him. At the time of this examination a physical check-up may contribute something that may be of value in appraising an individual's susceptibility to accidents; that is, he may be suffering from some defect or deformity which would render his operation of a machine extremely hazardous. In view of the possibility of uncovering such enlightening facts, I believe that the pre-employment examination should be thorough.

There are types of individuals who do not seem to mind much being injured if the injuries are not too severe; they rather welcome the respite from work which the accident entails. In addition to their compensation, they may have one or more types of lodge benefits which are paid them when disabled. It is difficult to get these men back to work, and they certainly do not give a very good impetus to any program of accident prevention.

As soon as an injured worker comes to me, I try to get in touch at once with our safety man, and have him interrogate the injured individual at the scene of accident. Another way to focus quickly the responsibility is to bring all accidents to the attention of the safety committee by making them reportable within a specified time after they have occurred, and if this is not done they will not be acceptable.

Frequently one of the greatest difficulties is to determine whether a strain or sprain is actually the result of a man's occupation. Here no time must be lost in the investigation, for as the days go by the facts become more nebulous; and also if the victim of the accident is a malingerer, he has more time to work up a case for himself. This is just where the necessity of reporting all accidents within a short, specified time shows its value. A warning for the first offense, a lay-off for the second, and a discharge for the third usually convinces an employee that no delay will be tolerated.

I know of nothing that will have a greater tendency to reduce accidents than the necessity of making this prompt report. The foreman is held responsible, and the worker dislikes to have it known that he is frequently being injured. Competitive plans, posters, talks, and movies are also a great help; but it must be remembered that the physician is of considerable importance not only in alleviating the suffering of the individual, but in reducing the number and severity of accidents.

*Paper presented at 20th Annual Safety Congress in Chicago.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Keeping Out Outsiders

Editor, Overseers' Round-Table:

In my opinion every mill should take precautions against outsiders getting into the plant. If the mill is not protected there will always be someone coming in to have a chat with the workers, or an agent trying to sell something to the workers. This would mean a loss in production for operatives cannot look after their work with someone bothering them all the time.

I would suggest that all doors except those leading to the office be kept locked. There should be signs pointing to the office and anyone wishing to see one of the workers could do so with permission. J. S.

Christmas Presents

"I HADN'T been giving much thought to the nearness of Christmas," Superintendent Chase started off the meeting; "until my wife got after me last night and began to talk presents. At any rate, I got to thinking about this and that, and I remembered that last year we had a discussion about allowing the help to take up a collection and give the overseer a Christmas present. Our decision was that it was inadvisable for the help to give presents to the overseers and now I'd like to have some discussion on another angle of the same question. Do you think that overseers should accept Christmas presents from concerns which sell supplies or machinery to the mill?"

"I suppose," Bill took the floor, "that whenever an overseer gets a present from some supply house there will always be some narrow-minded cusses who will yell about 'graft,' but I think that this is silly. Most all the purchasing is now done by some one person, or purchasing agent, and there isn't much chance for an overseer to bring the wrong kind of influence to bear on a purchase anyway. Now, you take those cases where the purchasing agent sends the salesman down into the mill so that the salesman and the overseer can work out some problem together. Lots of times the salesman and overseer get to be good friends and lots of times they have social contacts outside the mill. Maybe I'm a trusting sort of a bird, but I can see absolutely no harm in such a salesman sending a few cigars or something to the overseer for Christmas. It's a nice show of friendship and 99% of the overseers accept a present in this light and don't consider that there are any strings attached to it. As I said last year, the spirit of Christmas is a fine thing and I'm in favor of taking it as such, rather than try and tie it up with 'graft' and such nastiness."

Overseers Operating Machines

Editor, Overseers' Round-Table:

To my mind an overseer is a man of certain essential and desirable characteristics to whom labor, materials, equipment, etc., are entrusted, to the end that they be economically and efficiently utilized for the best interests of the employer. To accomplish this it is essential that the overseer think and plan ahead. Consequently, he cannot afford to waste his, and his employer's time, by doing anything, such as running a machine, which can be done to greater advantage by his subordinates.

The mere assumption that an overseer has both the time and equipment to operate implies that he is not on the job. Moreover, a working overseer is always in trouble, always behind, and always wondering why he does not succeed.

Z. E. Sargisson.

Editor, Overseers' Round-Table:

No overseer should be required to operate a machine at frequent intervals in order to keep his hands busy.

An overseer is a department head, or at least should be, and he should be left alone to discharge the duties that are included in such a position. The company expects him to carry out the orders that are issued to him, so why should he be required to spend his time at this when his presence is needed in some other part of his department, doing observation and other work of this class.

If, when an overseer sees a bobbin of roving about run out in a creel and the frame hand across the alley, he keeps this end from running out and making a single, or, when an end has run out in the back of a drawing frame, he steps up and knocks the frame off, or pushes a loom off when he sees a bad selvage, it will help to reduce seconds and the reduction of bad work the mill over, but this does not require full time as a producing operative.

Once Again

"I can appreciate," Pete reported, "what Bill says about the spirit of Christmas being a fine thing, but that is the very reason why I'd have a strict rule against anyone accepting presents from a concern which sells, or hopes to sell, to the mill. It may well be that the gifts are given on an honest straight-forward basis, with no strings attached, but, as even Bill admits, there are always some folks who talk of 'graft'. I don't like to see even a suspicion of dirtiness connected with Christmas presents and, therefore, I think the best thing is a strict rule forbidding either overseer or purchasing agent from accepting gifts. I know that most presents have been given in the past just on a friendship basis, but, as someone told me the other day, 'it may be all right, but it will always look suspicious as long as the friendship is on a basis that the overseer doesn't give a present in return.'"

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Do *you* believe that overseers or purchasing agents should accept Christmas presents from those selling to the mill?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

No man can run a department successfully or efficiently and be only in one part of it all the time. He must make his rounds frequently, very frequently, watch for leaks and thus be alert at any moment where action calls for him.

EAGLE.

Editor, Overseers' Round-Table:

PETE CERTAINLY has the right dope in regard to the overseer running a machine. An overseer is paid for his knowledge and needs time to plan his work ahead in order to keep his department running smoothly. An overseer cannot do this if he is running a machine or doing other work the help can do.

The best overseers I ever saw were the boys who were always thinking up new ideas and plans. They could not do this, and would not attempt to do this, if the company insisted on their digging in and running a machine in their spare time.

FRANCIS J. MCNEICE.

Starting the Youngsters Off

Editor, Overseers' Round-Table:

I AM thoroughly convinced that no other field today offers so great an opportunity to the young man as does the textile field.

Bill's statement that the "old-timers" in the industry do not "give the young blood a chance" was probably true ten years ago. However, the attitude of the mill management has changed appreciably within the last few years. I know of a number of mills which five years ago would not, or at least did not, employ young textile graduates. Today these same mills have from three to five textile graduates on their respective pay rolls and each year are taking on one or two additional trained men. Technically trained textile men are in demand. Clemson Textile Department could have placed twice as many men as it had graduates last June.

Bill states that the textile industry is not generally prosperous and therefore does not pay as well. It has been my observation that in the textile industry the demand for better trained men is greater during the lean years than in prosperous times. Recently I have had several requests from leading plants to recommend some of our textile graduates who had had from five to ten years' experience in a specific line of work. Several of these positions carried from $5,000 to $6,000 salary.

I have made a very thorough study of the possible outlet for textile graduates and have come to the conclusion that the saturation point in the textile industry will never be reached while our textile schools are turning out their present number of men. Even in this time of depression this school in less than four weeks' time placed its 29 graduates of last June since which time I have had inquiries for some 30 additional men. I have been connected with the textile industry for more than 25 years in practical manufacturing, cotton spinning research and in teaching, and I am thoroughly convinced that no field offers greater opportunities to a young man than does textiles, whether he be interested in manufacturing, research, costs, management or economics as applied to the textile industry.

H. H. WILLIS,
Director Textile Dept., Clemson College.

Editor, Overseers' Round-Table:

I CERTAINLY would not advise a son of mine to enter the textile industry, as I believe he would have a better chance in some other line.

The textile industry is an old industry and has seen its best days. I would advise any young man that is choosing a trade to enter a new field, one that is growing, and not one that is drifting backward as the textile industry is.

P. A. WYNN,
Overseer Carding.

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Summary of Discussion on Overseer Running a Machine

The vote was practically unanimous against having an overseer operate a production machine during his spare time. It was stated that much of an overseer's success depended on his ability to think and plan ahead, and that he could not do this properly if he were tied down to a machine. It was also claimed that an overseer could not observe things properly if he were stationed at one machine. The only exceptions noted were when the department was practically shut down temporarily, or where an overseer ran a machine occasionally just to keep his hand in on proper operation methods.

Iselin Knit Goods Lines Taken Over By A. S. Haight & Co.

EVEREST P. HAIGHT, of A. S. Haight & Co., knit goods selling agency, of New York, on Monday confirmed reports that his firm will take over the lines of nine mills hitherto represented by William Iselin & Co., veteran sales agency for underwear and outerwear mills. The transfer which becomes effective on Jan. 4, means that the Iselin organization will withdraw from the selling end of the knit goods business. The transfer is understood to include both mills and salesmen. The Iselin company, however, will continue to handle the accounting for the mills it has represented; George A. Vondermuhll and Kenneth P. Budd, Iselin partners will be in charge of this end.

The Iselin knit goods accounts affected by the plan, follow:

Root Mfg. Co., underwear and outerwear; Elmira Knitting Mills, underwear; Fort Schuyler Knitting Co., underwear; Erwin Mfg. Co., outerwear and underwear; Yund, Kennedy & Yund, outerwear; Williams Bros. Mfg. Co., underwear; Prudential Knitting Mills, outerwear; Montezuma Knitting Mills, underwear, and the American Underwear Mfg. Co.

The lines of these mills will supplement Haight's present accounts, which are the following: E-Z Mills, Ware Valley Mfg. Co. (Otis), Nuckasee Mfg. Co., Cartersville Mills, Mt. Airy Knitting Co., Chickamauga Knitting Mills, J. L. Miller & Sons, and Globe Underwear Co.

"Modern manufacturing demands specialization on a limited number of styles rather than a great many," Mr. Vondermuhll stated, "in this way only is it possible to maintain moderate inventories at the mills, cut down the loss on clean-ups of styles, and above all give service in large quantities in the duplicate season.

"In the Haight organization are five partners—Sherman P. Haight, H. L. G. Meyer, Everest D. Haight, Edwin W. Christie, and Arthur Powell.

"In the development of their business, A. S. Haight & Co. have gone considerably beyond the duties of mere selling agents, as that term is usually understood in the textile business. They consider their only justification for existence to be the creation of profits for their mills through more efficient representation with less distributive costs. In this way they become, as it were, the sales division of a group of non-competing mills who have united for economy of salaries, traveling expenses, office overhead and pooling of information on subjects of management, cost and mill accounting, and in some instances purchasing."

▸ Post Office Buys Jute Twine at 8½c. per lb.

The Post Office Department has awarded contract for 1,360,000 lb. of jute twine to the Ludlow Sales Corp. of Boston. The Ludlow corporation was the low bidder for this contract. Its bid was 8½c per pound.

Every effort was made by the Post Office Department to give this contract to the producers of cotton twine on the theory that it would benefit a domestic raw material. The low bid for cotton twine, however, was 23 per cent above that of jute twine. While it is true that the yardage of cotton twine is somewhat greater, it was not enough to make up for the wide difference in cost.

▸ One-Bath Method for Processing Rayon Knit Goods

It has been brought to our attention that the methods described in the article "One-Bath Method for Scouring, Bleaching, and Dyeing Rayon Knit Goods Steadily Gains Favor," which appeared in TEXTILE WORLD for Sept. 26, 1931, are protected by patents which are the property of the Surpass Chemical Co., Albany, N. Y. Details regarding licenses to use these methods, together with the new Surpalite process for rayon and silk which was described in the Feb. 21, 1931, issue of TEXTILE WORLD, and the improved Autogyp process for cotton, may be had upon application to the Surpass Chemical Co.

▸ Silk Employment Shows 5.7% Rise

An increase of 5.7% in employment in the silk industry during October as compared with the previous month, is reported by the Silk Association of America, Inc. October employment was 2.6% under the same month last year. Broad silk loom employment increased 7.6% and spinning spindle employment 3.8% as compared with September, 1931. Machinery operations during October increased 2.8% for broad looms and 5.6% for spinning spindles, compared with the previous month.

▸ Annual Report of Secretary of Commerce Pictures Recession

The effect of the industrial depression upon business in the United States during the fiscal year ending June 30, 1931, is indicated in the annual report of the Secretary of Commerce which was made public Monday. The report gives a sober picture of economic recession, but ends on a rather hopeful note: "The president's proposal, on June 20 (just as the report was concluding) for a 1-year moratorium on reparations and intergovernmental debts had a salutary effect on business sentiment in this country and abroad which was promptly reflected in an upturn in commodity and security values." The report reviews industrial progress through the year; it draws attention to the point that while the Federal Reserve Board's index showed that production during the year specified was 20% below the previous year, 25% below the peak year of 1928-29 the total production was above the calendar years 1920 and 1922 and 31% above 1921.

The report gives only general attention to textiles. Prices of silk and rayon, it states, averaged nearly one-third below the year previous; declines of 15 to 22% occurred in cotton goods and miscellaneous textiles. During the year prices received for cotton by growers dropped 45% and it was "inevitable some real distress in the industry should result and reduced farm buying power make itself felt." Significant changes in exports were noted. "Our exports to European countries dropped by varying degrees, 14% in case of those to Soviet Russia and 45% in case of those to Italy and Greece."

The division of the report devoted to elimination of waste has particular interest to the textile trades. It reviews the progress toward standardization of production and quality, and the development of simpler and more efficient manufacturing, and stresses the growing consumer tendency to insist on labeled goods and on proper size specifications.

The report also describes the new cotton cloth found satisfactory for parachutes as a substitute for silk in a possible emergency.

▸ Shows Tariff Not Factor in Reduced Foreign Trade

In anticipation of tariff agitation by the forthcoming Congress, Senator Smoot, chairman, Senate Finance Committee, issued a statement showing that the decline in foreign commerce of the United States is about proportional to average decline in foreign commerce of all nations and consequently not traceable to conditions peculiar to this country. He states that latest statistics show this country to be the leading export nation of the world by a considerable margin.

His statement in part follows:

I invite the attention of the public to a survey of world trade completed recently by the Department of Commerce. It is especially enlightening at this time when misleading information is being circulated with regard to tariff and international trade. I especially commend this survey to those who persist in talking about "the ruin of American foreign trade" without any basis of fact.

The survey covers the exports and imports of 90 countries, representing 98% of the world's international trade. For the sake of clarity I will confine this statement to export trade, which in 1930 amounted to $25,587,000,000, compared with $32,101,000,000 in 1929. This represents a decline of 20.3% in world exports. If only the more important commercial nations are considered, the decline is considerably more than 20.3%.

Foes of the Republican protective policy are trying to make it appear that the foreign commerce of the United States has

Jack Card Scans Tariffs of Free-Trade Britain

Editor, TEXTILE WORLD:

Ardent protectionists who for years have had to refute arguments in which "free-trade" Great Britain was cited as an example, must have enjoyed a quiet smile, and possibly even a noisy laugh, when announcement was made recently of the duties imposed under the British anti-dumping act. A tariff of 83% on silk and rayon hosiery (computed to be actually 105% on American goods when exchange discount is taken into consideration) is pretty good even when judged by Yankee standards.

Probably every thinking man is at heart theoretically a free-trader. The vision of a world in which products and raw materials circulate freely among nations without artificial barriers, appeals to one's sense of rhythm, if to nothing else. But, like many other similar theories, it fails to apply in a world which has not yet reached the perfect, or even the "almost perfect," state. No one has yet developed a practical method by which, under today's inequable conditions, living standards can be maintained, and workers protected, without benefit of tariffs. Consequently we shall have to continue to suffer the inevitable abuses of tariff legislation — attempting constantly to minimize them, of course, but not yielding protection merely to dodge its abuses. JACK CARD.

suffered more than any other country. As a matter of fact, exports from this country in 1930 declined 26.7% in value, much less in quantity.

Japan suffered more severe reverses in her foreign trade than did the United States. Our two neighbors, Canada and Mexico, lost export trade in about the same proportion as did this country, the declines being 25 and 24%, respectively. The United Kingdom lost 22% and Italy 20.5%.

American citizens who have been misled in the belief that "the stream of American foreign commerce has dried up" would do well to remember that 15% of the exports from 90 nations come from the United States, and that the latest statistics show America to be the leading export nation of the world by a considerable margin.

In the whole of South America where only 16% of the exports to this country are affected in any respect by the tariff, trade declined 35%. About 58% of the goods Europe exports to this country are dutiable under the Smoot-Hawley act, yet the international commerce of that continent fell off only 14.3%.

The current world-wide economic upheavel springs from economic maladjustment which produces a surplus of goods and labor and a shortage of markets and purchasing power. So long as this condition prevails it would be suicide to sweep away the imposts that protect our industries and agriculture.

Broadsilk Mills Urged to Study Changed Ratios in Selling Costs

THE calculation of selling expense and overhead in the broadsilk industry was subjected to an unusually keen and valuable analysis by Irving Lewin, of Lang & Lewin, Inc., silk manufacturers, New York, in a recent address before the Broadsilk Manufacturers' Division of the Silk Association of America, in New York. Mr. Lewin's presentation has particularly timely interest just now, when the silk industry is making constructive effort to solve the problems of overproduction and unprofitable merchandising. His study is clear and concrete and merits the close study by every manufacturer who hopes for a better financial showing in 1932.

The address follows:

Many thousands of dollars can be saved the industry by a proper and basic method of calculating selling, and general overhead and expense.

It is an undeniable fact that mills today have reached a definite method of ascertaining cost. I personally have compared figures with a great many of the leading mills, and find that costs are accurately figured and close to a uniform basis of calculation. This applies not only to direct mill costs but particularly to general mill overhead.

Some years ago many mills figured overhead by percentage, which modern cost accounting and business logic have definitely eliminated. Figures on overhead are today based upon an hourly or weekly flat rate per loom. If the market drops from $4.50 to $2.00 per lb. for raw silk, we do not change our mill overhead figure, but drop only our material cost.

On the other hand, let us look at the way many selling offices of our mills handle this same proposition. Take as an example one of the popular staple cloths. A year ago this cloth was selling actively at $1.25 and this selling price was built up by taking the cost of the dyed and finished article and dividing by .85. This selling price, therefore, included 15%, which provided for customers' discounts, factoring, salesmen's commissions, New York overhead and profit. This figure was hardly sufficient to cover New York office overhead completely.

Let us analyze this basis and find out what has happened. At the former selling price of $1.25 less than 15%, we find that the dyed cost was $1.0625, allowing 18¾c. to cover discount, salesmen's commissions, factoring, New York overhead and profit. The 8% customers' discount is exactly 10c., the salesman's commission and factoring are approximately 4% on the net selling price, which amounts to 4.60c. per yard, or a total of 14.60c. which allowed leeway of 4.15c. per yard for New York overhead and profit.

Suppose a medium size manufacturer—let us say with only 300 looms—to be turning out 50,000 yd. a week on the basis of a year ago. His net reserve for New York overhead and profit would be 4.15c. a yd. or a total of $2,075 a week, or $107,900 a year for full capacity production. This overhead for a 2,600,000 yd. yearly production hardly covered business of this size, yet today this same cloth is being sold at 80c. and most of us are still using this same computation of 15% of gross sales price.

Compare the loss with the previous figure. At 80c. less 15% we reach a cost of 68c. and find after deducting 8% discount and 4% on the net selling price to cover salesmen's commissions and factor, that our reserve for New York overhead and profit has dropped to 2.65c. a yard.

On the basis of the same 50,000 yard weekly production, it amounts to an offset of $1,325 per week, or a total of $68,900 per year, or a difference of almost $40,000 yearly. In other words, if we use percentages, we find that it would be necessary to cut the expense of our sales and executives offices nearly 40% lower than one year ago if we are to meet this condition. This seems an impossible task, especially in view of the fact that the excessive returns, changing styles and color demand make our problems of expense and economical merchandising greater than ever.

A method of sales calculation more in keeping with this lower market should, I believe, be adopted. While I feel that a standard percentage for all raw markets is economically unsound, I realize that a flat unit yard of overhead is also rather a difficult thing to adopt on account of the many different qualities and the difficulty of determining the unit of overhead per yard. I do, however, feel that it is practical and entirely within reason to figure a higher percentage for lower market. A basis of let us say—22½% for a $2 to $2.50 market, 20% for a $2.50 to $3.50, 17½% for a $3.50 to $4.50 market, and 15% for markets of $4.50 and over, would come nearer to covering our overhead as the increase of percentage would only offset the lower market. If the market drops sharply, our overhead does not drop with it, and we should by all right and reason reduce our price for material cost only and not include our overhead in the cut.

I fully realize that this suggestion is not the panacea for all our troubles, nor will it eliminate the ruthless price slashing, but it will at least start us off on each new season with a slightly higher estimate of cost and allow us a greater factor of safety against the cuts which seem to take place in the midst of each season.

▸ October Broadsilk Sales Drop 19.2%

Yardage sales of broad silks showed a decrease of 19.2% during October as compared with the previous month, and a decrease of 11.5% as compared with October, 1930, The Silk Association of America, Inc. reports. The continuance of warm weather late into the fall season is considered an explanation of the falling off in sales.

An upward trend in broad silk sales has marked the first ten months of the year, however, yardage sales during this period being 7.3% higher than during the corresponding period of last year. Stocks on Oct. 31 were 7.6% higher than on Sept. 30, but 12.2% lower than on Oct. 31, 1930.

NEWS about MEN

W. D. Anderson, president of the **Bibb Mfg. Co.,** Macon, Ga., **Cason J. Callaway,** LaGrange, Ga., president of the American Cotton Manufacturers Association, and **W. J. Vereen,** vice-president and treasurer of the Moultrie (Ga.) Cotton Mills, have been appointed to the board of regents of the University of Georgia and other State educational institutions.

F. J. Farrell, of London, England, president of the British Silk Association, is in Canada to supervise the erection of a new unit for Grout's, Ltd., St. Catherines, Ont., manufacturers of broadsilks, of which company he is the president.

A. A. Milot, president of the Paragon Worsted Co., Providence, R. I., and Mrs. **Milot,** sailed from California last week for an extended trip to Honolulu.

A. S. Clark, of Clark Bros., Glens Falls, N. Y., delivered an illustrated lecture last week before the Foremen's and Executives' Club in that city, concerning the manufacture of silk products.

E. R. Van Vliet, treasurer of Tubize Chatillon Corp., has returned from Europe and is back at his office in New York.

John B. Strongman, former treasurer of the City Mill, New Bedford, Mass., has been elected to the board of directors of the Hathaway Mfg. Co., also of New Bedford, at the recent annual meeting. He takes the place of **Thomas Brayton,** Fall River, Mass., who has retired. Other directors re-elected are **Horatio Hathaway, Henry S. Knowles, Henry H. Crapo,** and **James E. Stanton, Jr.**

H. E. Machold, vice-president of the Skenandoa Rayon Co., Utica, N. Y., is recovering from an illness which has confined him to his home at Ellisburg for some time.

Col. F. Vernon Willey, second Baron Barnby, of Francis Willey & Co., Ltd., Bradford, England, and South Barre, Mass., sailed from New York Nov. 21 for home, after spending the last two months in this country and Canada.

International News Photo

William A. Robinson greeted by the mayor's reception committee in New York harbor at the conclusion of his round-the-world cruise

William A. Robinson, who graduated from Lowell Textile Institute in 1925, has just completed an around-the-world cruise in a 32-ft. ketch, having visited South America, Tahiti, the Baleric Islands, Arabia, and many other points. His experiences include dining with cannibals and battling typhoons. Upon his arrival in New York he was greeted by a committee of the local section of the Lowell Textile Institute Alumni Association, headed by A. J. Winkler, local president. Mayor Walker also sent a reception committee to the dock.

R. G. Knowland, general manager of the Bigelow-Sanford Carpet Co., has returned to New York from a six weeks' trip to the Pacific Coast. While absent, he called on the company's dealers and representatives in nearly all the large cities west of the Alleghenies. Mr. Knowland officially reports that the retail trade as a whole is ahead of last year on unit sales but slightly behind on dollar volume, although some stores are in advance of last year's figures in both units and dollars. He found price competition especially keen in the Middle West and the trend toward lower priced merchandise almost universal. He was accompanied by **W. N. Sutherland,** who is in charge of coloring and designing for the company.

George A. Slifer became associated with Turner, Halsey Co., New York, Dec. 1. He was formerly with Wellington, Sears & Co., and at one time with Amory, Browne & Co. He will work with **Charles Robertson** in his new connection.

Daniel Hess, sales manager of the Trojan Hosiery Mills, Indianapolis, Ind., in charge of the New York office, started a new selling agency Dec. 1, to be known as Hess, Taylor & Kreiss, Inc., at 389 Fifth Ave., New York. Prior to his association with the Trojan mills, Mr. Hess operated his own business as Hess & Co., selling agents, and was with Julius Kayser & Co., for four years. Associated with him in the new firm are **Malcolm Taylor,** formerly with John E. Phipps, New York, and **John Kreiss.**

J. Lawrence Ivers, who established the New York office of Toulson Yarns, Inc., Bridgeport, Conn., is now with Clifton Yarn Mills, Inc., Clifton Heights, Pa., with offices in the Empire State Building, New York. Mr. Ivers was, at one time, superintendent of the Renfrew Mfg. Co., Adams, Mass., and later with the New Market (N. H.) Mfg. Co. He is a graduate of the New Bedford Textile School and also of the Bradford-Durfee Textile School.

Robert S. Bole, has resigned as agent of the United States Finishing Co., Pawtucket and Providence, R. I., and will be in the New York office of the Robertson Bleachery & Dye Works, New Milford, Conn.

Robert G. Duffield, who has resigned as Chicago representative of Monument Mills, Housatonic, Mass., will represent Louisville Textiles, Inc., with offices in the Adams-Franklin Bldg., Chicago. **C. J. Dore,** has been transferred from New York to the Chicago office of Monument Mills.

David H. Young, originator of the grenadine twist for first practical purposes in silk hosiery, and **David R.**

Textile Calendar

Textile Forum, N.A.C.M., for overseers of spinning, Chamber of Commerce Bldg., Boston, Mass., Dec. 10, 1931.

Wool Blanket Manufacturers, Quarterly meeting, New York, Jan. 14, 19322.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving, Chamber of Commerce Bldg., Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date to be set later.)

Second National Cotton Week, nation-wide promotional campaign, May 16 to 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

Whitman, sales manager of the substandard department and promotion manager for the new first quality styles, resigned this week from the Trojan Hosiery Mills, and affiliated companies, Indianapolis, Ind. Both intend to remain in the hosiery business.

L. A. Barling, long associated with the cotton textile business in New York will be in charge of the new New York office of the Thies Dyeing & Processing Co., Centreville, R. I., at 40 Worth St.

Robert Stockman, son of **Andrew Stockman,** president of the Delgrave Co., Newark, N. J., textile engraving, will be manager of the Spartanburg branch of the company which has just been established. The Delgrave company has secured the old Star Hosiery Mill building, and machinery is being installed. Active operations will begin within the next two weeks.

A. M. Knight, New England representative for Breton brand oils for wool, for the Borne Scrymser Co., Boston, is recuperating from an operation for appendicitis.

Arthur Snyder has resigned from the DuPont Rayon Co., Old Hickory, Tenn., effective Dec. 1, after an eight-year connection. He will become general superintendent of American Textiles, Bay City, Mich., knitwear plant.

Albert C. Wegner, foreman of the color mixing department of the Oswego (N. Y.) Shade Cloth Co., was given a gold watch in recognition of 50 years of service with the company. The presentation was made Nov. 23, by vice-president Grover C. Boyce, in behalf of the Board of Directors.

Adolph Born has accepted a position as finisher with the Forstmann Woolen Co., Passaic, N. J. He was formerly with the Arlington Mills, Lawrence, Mass.

Wiliam McKinnon, overseer of dyeing at the Wuskanut Mills, Inc., Farnumsville, Mass., for the last 21 years, has resigned.

Thomas J. Hetherman, South Portland, Me., has accepted a position as overseer of dyeing with the Fabyan Woolen Co., Medway, Mass. He was formerly with the J. D. Clark Co., Rochdale, Mass., as overseer, for 14 years.

Obituary

Andrew S. Webb

Andrew Spangler Webb, prominently identified with numerous industries and textile concerns, died Thursday, Nov. 26, at his home, Jenkintown, Pa., after a protracted illness of a complication of diseases. Mr. Webb, who was 45 years old, was a son of Charles J. Webb, who died about a year ago. A graduate of Pennsylvania Military Academy, Mr. Webb had been connected with the textile industry throughout his life. He was vice-president of Chas. J. Webb Sons Co.; president of S. B. & B. W. Fleisher, Inc., Philadelphia; vice-president of Woolen Corp. of America, New York; treasurer of Kent Mfg. Co., Clifton, Heights, Pa.; director of Merion Worsted Mills, Conshohocken, Pa.; vice-president of Bedford-Johnson Organization, Lynchburg, Va.; treasurer of Virginia Mfg. Co., Greenville, S. C. He was also a director of the National Manufacturers Association and was appointed in 1929 as an arbitrator of the American Arbitration Association. He was a member of the Union League of Philadelphia, Manufacturers' Club, and the Huntingdon Valley Country Club. He is survived by his widow and three children as well as two brothers, C. Edwin Webb and Herbert K. Webb.

Joseph H. Bromley

Joseph H. Bromley, president of the Quaker Lace Co., Philadelphia, died Nov. 28, at his home in Germantown, Philadelphia, after an illness of several years. Mr. Bromley who was aged 79 years, was a son of John Bromley, carpet manufacturer. After being associated with his father from an early age, he left the firm of John Bromley & Sons in 1897 and established the firm of Joseph H. Bromley, engaged in the manufacture of lace curtains. Later he organized the North American Lace Co., and the Lehigh Mfg. Co. Subsequently the North American Co. was transferred to his sons, Henry S. and John, and the Joseph H. Bromley firm and the Lehigh Mfg. Co. merged to form the Quaker Lace Co. Mr. Bromley was for many years a director of the Industrial Trust Co., and a trustee of the Medico-Chirugical College and Hospital. In 1920

Andrew S. Webb

and 1924 he was a delegate to the National Republican Convention. He was also a member of the Union League, the Manufacturers Club and the Germantown Cricket Club. He is survived by four sons, 12 grandchildren, and two sisters.

Dr. William Keltner Robbins

Dr. William Keltner Robbins, chief chemist and colorist at Amoskeag Mfg. Co., Manchester, N. H., for 44 years, and formerly a professor at the Massachusetts Institute of Technology, died Nov. 26, at the age of 76 years. Dr. Robbins received his doctor's degree at Iowa State College. He went to Manchester in 1882 and became associated with Amoskeag as chemist, later becoming superintendent of dyeing and coloring. He retired in 1926. Dr. Robbins was a member of the New Hampshire Legislature, former chairman of the American Chemical Association of Boston, honorary member of the American Association of Textile Chemists & Colorists, and a past president of New Hampshire Academy of Science. He is survived by one son and two daughters.

Edwin K. Davis

Edwin K. Davis, chief engineer for the Fulton Bag & Cotton Mills, Atlanta, Ga., died Nov. 18, following an operation for appendicitis. Mr. Davis had been connected with the Fulton mills for 19 years. Mr. Davis was the first Atlantian to enlist in the American Aviation Corps. at the time of the World War.

David M. Ellis

David M. Ellis, retired hosiery manufacturer of Philadelphia, died recently at the age of 74 years. He started in business in 1894 and retired two years ago. He is survived by his widow, five daughters and four sons.

Charles E. Fricke

Charles Emory Fricke, former head of J. E. Fricke Co., Hulmeville, Pa., cordage manufacturers, died Nov. 24, at his home in Germantown, Philadelphia, following a brief illness. Mr. Fricke was 61 years old. He retired about two years ago, having been associated with the business founded by his father in 1870, since a young man. He is survived by his widow and a daughter.

Allen J. Graham

Allen J. Graham, former president of Camperdown Co., Inc., Greenville, S. C., died last week at the age of 46 years. Mr. Graham was active in the civic affairs of Greenville. He is survived by his widow, two sons, and a daughter, as well as his mother and one sister.

Joseph Ruddy

Joseph Ruddy, secretary-treasurer of the Slingsby Mfg. Co., Ltd., Brantford, Ont., at the time of the firm's organization, died recently at Clifton Springs, N. Y., following a serious operation. Mr. Ruddy is survived by his widow, one daughter and one son. Prior to his death he was head of the Ruddy Mfg. Co., Brantford.

NEWS about MILLS

Cotton

Sunset Textile Mills, Selma, Ala., owned by the **California Cotton Mills Co.,** Oakland, Cal., resumed full time operations last week. The mills have been on part time for five weeks. This new rate of production will probably be continued through March.

Otis Co., Ware (Mass.) Mills. A caustic soda filter plant is now being installed.

Cotton Mills Products Co., Natchez, Miss., has applied for tax concessions, and, if granted, may reopen.

National Thread Co., Inc., 129 West 27th St., New York, has leased the top floor of the Industrial Bldg. at 1013-15 Clinton St., Hoboken, N. J., and will move the plant to the new location at an early date.

Raeford (N. C.) Cotton Mills Co. is arranging for the early resumption of operations at its mill, following an extended shut-down. A reduced working quota will be employed at first.

Valley Queen Mill, of **B. B. & R. Knight Corp.,** West Warwick, R. I., may be purchased by the Original Bradford Soap Works, Providence, if the plant can be exempted from taxation for 10 years by the voters of the town. The operation of the Valley Queen Mill was discontinued several years ago and some of the machinery was dismantled and removed.

***Social Mill,** of the **Manville Jenckes Co.,** Woonsocket, R. I. The permanent receivers, George R. Urquhart and Zenas W. Bliss, have been authorized to demolish the mill, under a decree handed down in the Superior Court in Providence. A reason advanced for razing the plant is to avoid payment of a large city tax. The mill has not been in operation for three years. The 4-story brick main building is adjoined by a large weave shed; it occupies a tract of land including valuable water rights through ownership of Social Pond. Whether or not the mill will be razed has not been announced.

***Williamson Mills Co.,** Charleston, S. C., was sold at auction last week for $25,000 to the South Carolina Security Co., for bondholders, under foreclosure proceedings involving a $140,000 mortgage.

Southern Weaving Co., Greenville, S. C., has planned a plant addition, 40 x 60 ft., to be used as a bleachery and dye house. Equipment for the bleachery has been ordered but present plans do not include immediate use of the dyehouse.

***Lancaster (S. C.) Cotton Mills** have purchased the machinery of the former Gilmer plant, Shreveport, La. The sale included 5,000 spindles and other equipment which will be moved to Lancaster for replacement purposes.

Tucapau (S. C.) Mills, of the **New England Southern Corp.** Night operations in the crash mill have been discontinued.

**Indicates previous mention of project.*

Queen City Cotton Co., Burlington, Vt., has resumed operations following a shut-down of about six weeks. This will give employment to about 450 persons.

Wool

Haddam Woolen Co., Moodus, Conn., has been formed by Robert Kelley, of Norwich, Conn., and associates, with a capital of $50,000.

Berkshire Woolen Co., Pittsfield, Mass., is operating two eight-hour shifts, from 6 a.m. to 10 p.m. The schedule calls for 75 additional workers, making the total about 500.

S. N. & C. Russell Mfg. Co., Pittsfield, Mass., idle for several months, has made definite plans to start operations with 200 hands about Dec. 15.

Harris, Emery Co., Dustin Island Woolen Mills, Penacook, N. H., has awarded a contract to the Hutchinson Building Co., Concord, N. H., for a 1-story frame addition, 35 x 40 ft. to cost about $7,500. Work has been started from plans prepared by George W. Griffin, Concord.

Jantzen Spinning Mills, Camden, N. J., purchased by the **Jantzen Knitting Mills,** Portland, Ore., in 1929, from the B. F. Boyer Co., worsted yarn spinners for 56 years, will discontinue production. Charles S. Boyer, vice-president, has stated that the machinery of the plant is for sale.

Forstmann & Huffmann Co., Passaic, N. J., has adopted the corporate name of **Forstmann Woolen Co.** The company was first established in this country under the original partnership name of the German concern, Forstmann & Huffmann, in 1904. The new name is regarded as better identifying the present company.

Bigelow-Sanford Carpet Co., Amsterdam, N. Y., is demolishing an old unit formerly used as a machine shop.

Mohawk Carpet Mills, Amsterdam, N. Y., were damaged slightly last week by a fire originating in the boiler house of the Shuttleworth division.

Barron (Wis.) Woolen Mill Co. plans to rebuild a portion of the mill recently damaged by fire, with a loss estimated at $10,000.

Knit

Newnan (Ga.) Hosiery Mills advise that the report in TEXTILE WORLD for Nov. 21, regarding their plans for a plant addition, are in error, and that no such addition was ever contemplated.

***Bear Brand Hosiery Co.,** Kankakee, Ill. The new addition will be four stories, with a total of 25,000 sq.ft., to cost about $40,000; it will be used for the storage of bales of cotton, but ultimately this addition will be used for the production of full-fashioned hosiery.

Rugby Knitting Mills, Buffalo, N. Y., have adopted an overtime operating schedule, with increased working force, and will continue on the new basis for an indefinite period.

Thermo Mills, Inc., Hudson, N. Y. A complete "Inversand" zeolite water softening plant is being installed for the Thermo mills.

Durham (N. C.) Hosiery Mills are running on a full time schedule, with close to a normal working force. They will hold to that basis for an indefinite period.

Elliott Knitting Mills, Hickory, N. C. A second "Inversand" zeolite water softener unit is being installed in the Havana, Cuba, plant of the company by Hungerford & Terry, Inc. This is the third machine of the kind to be installed for them in the last three years.

Perkasie (Pa.) Silk Co., which has been closed since last February, has been purchased by the **Artcraft Silk Hosiery Mills, Inc.,** Philadelphia. The plant has 10,000 spindles and the production of hosiery tram will begin at once. J. Kugelman is president of the company and William G. Corby is superintendent.

Arr-Tee Knitting Mills, Philadelphia, are moving to the property at 21st, Clearfield, and Lippincott streets. This building was occupied by the **United States Silk Hosiery Mills, Inc.,** until receivers took over the plant. The Arr-Tee mills have a lease and machinery is being moved gradually so that some will be kept in operation.

Guarantee Knitting Mills, Philadelphia, Pa. Stanley R. Stager has been appointed permanent receiver in bond of $30,000.

Wolfinger Knitting Mills, Reading, Pa., have discontinued making seamless hosiery and have equipped the plant for the exclusive manufacture of women's fine gauge full-fashioned silk hosiery. The capital structure of the corporation has been changed and stock is being offered to the public. There are 100,000 shares of no-par common stock, but no preferred stock and no bonds.

H. L. **Miller & Son,** Port Carbon, Pa., have leased the former Reider shoe plant in Orwigsburg, ten miles distant, and will open a branch mill in about three weeks, as soon as alterations can be made and machinery installed, hiring 25 workers to start. H. B. Schwartz, Reading, Pa., will be general manager and Henry Walker, Schuylkill Haven, Pa., will be the superintendent.

*Interwoven **Mills Co.,** Berkeley Springs, W. Va. The total number of workers hired, since operations were resumed a few weeks ago, has reached 100.

Silk

Altoona Textile Co., Inc., Scranton, Pa., which has been closed for about a year, has been purchased by A. Shapiro, New York, and J. B. Kingsley, Blakely, Pa. Mr. Kingsley is president of **Mid-Valley Silk Co., Inc.,** Peckville, Pa. Mr. Shapiro is president of the **Clearview Silk Co., Inc.,** Scranton, Pa., of which company Mr. Kingsley is treasurer. The building, 160 x 160 ft., containing 50,000 sq.ft., will be used for silk weaving purposes. The company will employ about 150 persons. The plant is fully equipped with 200 looms and other machinery.

Tiogo Silk Co., Inc., York, Pa., has been certified to do business in New York State. The address, as filed by William L. Standard, 270 Broadway, New York, will be at 69 Seventh Ave., New York.

Niagara Silk Co., Ltd., Brantford, Ont., Canada, which passed into bankruptcy some time ago, is offering its plant and real estate for sale, through the Trusts & Guarantee Co., Brantford. The receivers have agreed to rent out the whole or part of the premises, with or without the machinery.

Grouts, Ltd., St. Catherines, Que., is running on a capacity schedule, giving employment to about 400 operatives. A new unit will be added for increased output.

Finishing

*Lawrence (Mass.) Dye Works, which were recently sold to a group of Lawrence business men, will be put into shape for active operation as soon as possible. Ivar L. Sjostrom, connected with the plant when it was run by U. S. Worsted Co., will be in active charge of the plant.

Colonial Dyeing Co., Paterson, N. J., recently organized to operate local dye and finishing works, with a capital of $100,000, will be represented by Otto Lutolf, 126 Market St., Paterson, attorney. Harry J. Custer, Paterson, is the principal incorporator.

Miscellaneous

United Felt Co., Inc., Chicago, Ill., recently organized with capital of $100,000, will take over and succeed to a company of the same name, with a local mill at 3729 South St. Louis Ave. Samuel Welensky will be the president of the new company. David A. Willis is one of the incorporators.

Peerless Pillow Mfg. Co., Newark, N. J., has been formed with a capital of 500 shares of stock, no par value, to operate a local bedding factory. It will be headed by Harold Krasner, 143 Huntington Terrace, Newark, one of the incorporators.

Crescent Lace & Embroidery Works, Union City, N. J., recently organized with a capital of 2,500 shares of stock to operate a machine lace and embroidery mill, will be represented by Alfred E. Modarelli, 416 Thirty-eighth St., Union City, an attorney. Sante Fortuna, North Bergen, N. J., is one of the heads of the company.

Swink Mfg. Co., Salisbury, N. C., was formed several years ago with the idea of building a large textile mill, and land was purchased about five miles south of Salisbury. Real estate transfers have been filed whereby Charles A. Cannon, president of the Cannon Mills, Kannapolis, N. C., and W. J. Swink have taken over the land. A mill building was never erected.

Lancashire Felt Co., a well-known firm in England, has purchased the vacant mill building of Canada Metal Products, Guelph, Ont., and will open a branch plant there. Machinery will be shipped from England, and nearly 100 hands will be employed when the company begins operations early next year.

Atlantic Tubing Co., Providence, R. I., has changed its name to Atlantic Tubing & Rubber Co.

New Books

TEXTILE FIBERS AND THEIR USE; *by* Katharine P. Hess, J. P. Lippincott Co., Chicago.

This book is intended to present on a level suited to college instruction certain fundamental facts concerning textile fibers and fabrics made from them which are of importance to the consumer. The volume is designed primarily as a text book to give the student definite information which will enable her to select and handle cloth more wisely and to interest her in the opportunities now open to women in the field of clothing and textiles. It is believed that the work will serve this purpose in a satisfactory manner, and that it will also be of interest to other classes of readers who desire a general knowledge of textile manufacturing operations with particular reference to their influence on the quality of the fabrics produced.

Among the subjects treated are the following: construction of yarns and fabrics; how finishing makes cloth salable; application of color to textiles; obtaining design in fabrics; importance, value, and use of the major natural and synthetic fibers; factors influencing textile consumption; selection of fabrics for clothing and household use; and care of fabrics. The book is profusely illustrated; and in the main, the technical information, while not detailed, is accurate. Chapter references to books, Government bulletins, TEXTILE WORLD, and other publications are generous.

SEASONAL VARIATION IN EMPLOYMENT IN MANUFACTURING INDUSTRIES: A basic study based on census data. By J. Parker Bursk. Philadelphia: University of Pennsylvania Press. 197 pp. $2.50.

New thoughts or data on the vexing problem of unemployment will be welcomed with increasing interest as the winter advances. In his preface, the author observes that, while general aspects of unemployment have received wide and intelligent consideration, such specific questions as seasonal idleness have been greatly neglected.

His book does much to fill this need. Textile manufacturers will be especially interested in the first part of Chapter III, which is devoted to seasonal unemployment in textile trades. This study covers cottons, silks, woolen and worsted goods, ready-to-wear, millinery and lace goods, buttons, bags, carpets and mattresses.

The range is so broad and the space so limited that the author cannot offer any extended treatment of the divisions. His conclusions are that four main factors influence seasonality in textile employment: climate comes first, style second, influence of related industries third, and customs or habits is fourth. The textile division is given additional value by numerous tables and charts.

COTTON PRODUCTION AND DISTRIBUTION IN THE GULF SOUTHWEST. United States Department of Commerce, Bureau of Foreign and Domestic Commerce. Domestic Commerce Series—No. 49; by Elma S. Moulton; 309 pages; 80c.

This study of cotton production and distribution in the Gulf Southwest states of Arkansas, Louisiana, Mississippi, Missouri, Western Tennessee, Oklahoma and Texas, which is published as Part III of the Commercial Survey of the Gulf Southwest, describes the movement of cotton from producers to consumers, shows the importance of the crop in this region, and explains the problems of financing the crop. The marketing of cotton, including a description of the process and agencies involved, transportation facilities, and the best available data on the volume and direction of the movement of the crop are included.

The production of cotton in this region is shown to represent more than 70% of the entire United States crop and approximately 40% of the world production. The income from cotton is distributed among 5,000,000 or more people in the area. The tenancy problem, with statistics of farm ownership and tenure, is discussed. Such factors as the quality of the cotton crop, the competition of other fibers, and labor limitations are considered. One section of the report is devoted to an analysis of domestic mill requirements based on staple lengths.

*Indicates previous mention of project.

New Machinery *and* Processes

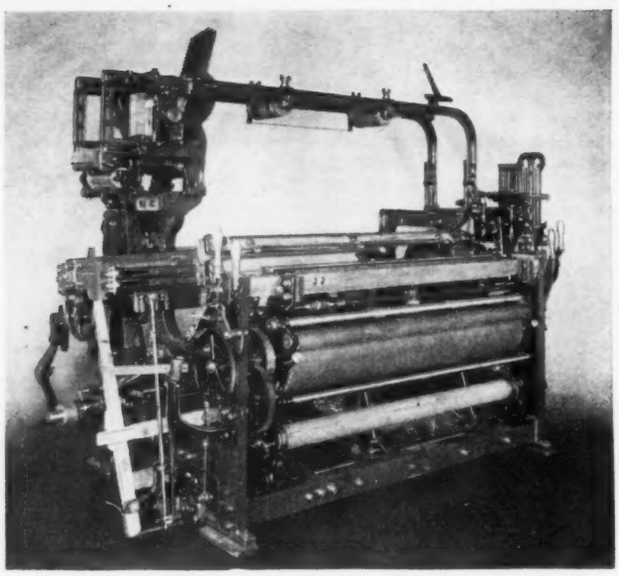


Fig. 1. New features of design employed on loom for weaving silk fabrics

Super Silk Loom

FURTHER details of the "Super" silk loom, exhibited publicly for the first time at the recent silk machinery show in Patterson, have been made available by Crompton & Knowles Loom Works, Worcester, Mass. Because of the innovations embodied in the machine, it is said that a distinctly new loom has been evolved (Fig. 1).

Standardization of parts has been so developed that flexibility is cited as one of the chief advantages of the loom. One frame serves as the base upon which 82% of all the silk looms manufactured by this company are built. Not only parts, but whole motions, are said to be interchangeable. Revision from plain to roller bearing, from non-automatic to automatic, and from one combination of boxes to another is facilitated by this standardization program.

The weight of the loom frame has been increased, all length-wise parts are of structural steel, and a strengthening of vital parts has been effected. A new motor with three-point suspension (Fig. 2) has been attached to a one-piece motor frame on the loomside. Bearings for crank, bottom, and rocker shafts are in cartridge form and are held in place in holes bored in the loomside. The clutch is of the type having a cast-iron internal-expanding ring; and it is stated that the friction is easily adjustable by means of a convenient screw. There are a brake handle and shipper handle at each end of the loom, working from the same shaft center.

With respect to the picking, a new batwing motion is employed. The picking shoe has a long sweep, and imparts constant acceleration to the shuttle. A square picking shaft enables a square hole to be broached from the round hole drilled in the picking shoe, which is machined in a jig.

A swing reed is provided and is equipped with adjustable tension springs, which work freely on bolts passing through the angle iron that forms the base of the lay. Means are provided to hold the reed in place at the time of picking, and the time of application and amount of tension can be adjusted.

Protection is provided in the form of a new type of shock-absorbing bunter iron in which a three-leaf spring absorbs the blow of the bunter lever. Each end of the loom is equipped with a lever to knock off the brake handle. Further improvements may be noted in the filling stop motion, box motion, let-off, and take-up; and a split picking roll arm and new spring jacks are featured (see Fig. 3).

In designing this machine the company has strived for simplicity in combination with mechanical efficiency.

Three alternative harness motions are available—intermediate Knowles head,

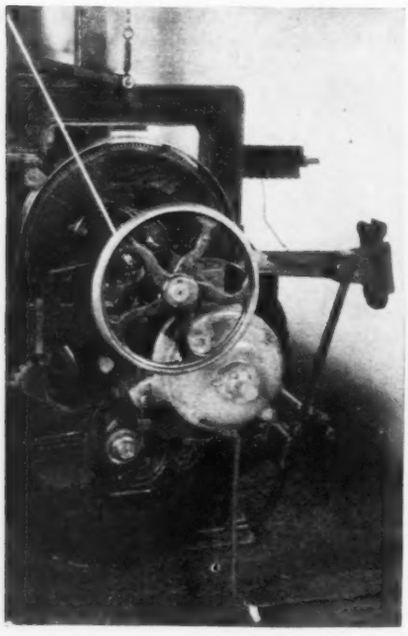


Fig. 2. Three-point suspension motor is attached to one-piece motor frame on loom side

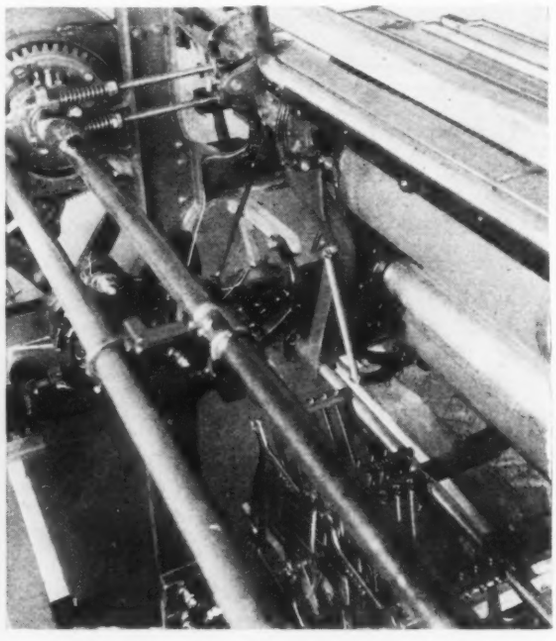


Fig. 3. Inside view showing special features of loom construction

dobby, and cone; and box capacity can be either 2x1 or 4x1. The results of recent experiments lead the manufacturer to believe that within a short time the shuttle-changing mechanism for either 1x1 or 2x1 will be offered.

Rayon Reed

A NEW type of reed, particularly adapted for the weaving of rayon, has been announced by the American Supply Co., Central Falls, R. I. A special Swedish wire is used in the reed; and in securing the dents, a special construction which makes use of a treated cord is said to prevent acid corrosion of the solder and thus eliminate breakage due to this cause. With this construction it is also claimed that there is greater flexibility, thus allowing maximum space for weaving and easier passage of knots. Greater ease in drawing-in is another feature stressed by the manufacturer.

Explosion-proof casing adds safety to motor starter

Motor Starter

DEVELOPMENT of the No. 1 type Zeo across-the-line, explosion-proof starter for use in hazardous locations is announced by Electric Controller & Mfg. Co., Cleveland, Ohio.

Features of the instrument as pointed out by the manufacturer are a strong, tight enclosing case, and an extra wide flanged joint to cool any gases formed within the case before they can come in contact with the surrounding atmosphere.

The contactor mechanism and overload relays are mounted on a slate base which is removable form the case. The main contacts and overload relays are immersed in oil, and all working parts are kept well-lubricated and protected from corrosion by the capillary attraction of the oil. The terminals are located above the level of the oil in order to insure against deterioration of the insulation on the wires.

It is pointed out that this design meets the Underwriters requirements because the enclosure is heavy enough to withstand an explosion.

Box-Strapping Machine

A MACHINE for the shipping room which is said to simplify and speed up the strapping of all types of shipping containers has been perfected by Signode Steel Strapping Co., 2600 N. Western Ave., Chicago. It is stated that this device both tightens and seals the steel strappings used to reinforce shipments.

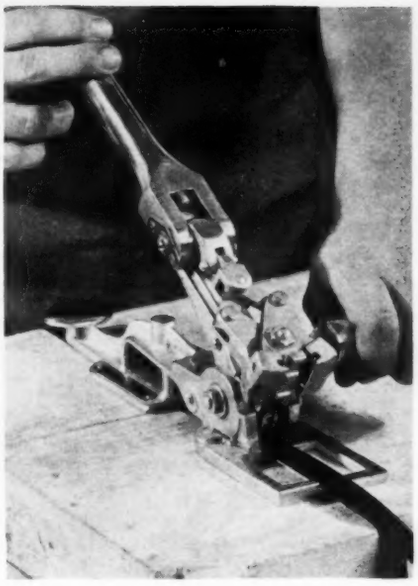
In operation only a few short strokes of the tensioning handle are required to tighten the strap. The trademark seal is then snapped on, and the sealing handle is pressed forward to lock and seal the strap. It is cited that the fact that both operations are performed by one machine insures perfect sealing.

Tests made by the company under varied shipping conditions indicate that a saving of about 25% of the sealing time may be expected. It is believed that the introduction of this device will stimulate the use of tensional steel strapping as a factor in practical shipping economy.

Self-Aligning Bearing Units

ANNOUNCEMENT of a new line of self-aligning roller bearing units for normal duty applications is made by Shafer Bearing Corp., 6501 W. Grand Ave., Chicago. These units are furnished as pillow blocks, flange units, and take-up units in a full range of shaft sizes from ¾ in. to 3 in.

The inner race of the bearing is extended on one end only and fastened to the shaft by a special locking collar, providing sufficient capacity for the intended service and a simple application of the unit on the shaft. The unit is said to be sealed in such a manner that dirt and other abrasive materials cannot enter, and the lubricant is retained. It is pointed out that the self-aligning feature eliminates difficulties often encountered where operating conditions are severe or when shaft deflection or misalignment is present.



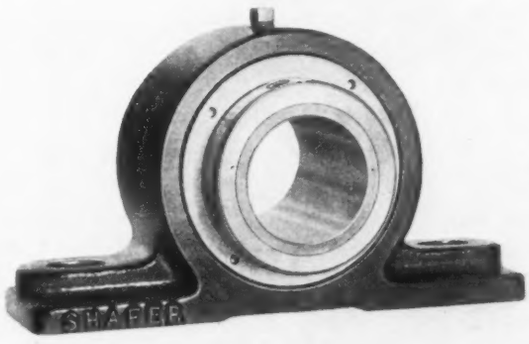
Machine tightens and seals steel strapping

These bearing units differ from those previously manufactured by the company chiefly in the fact that they have been made lighter in weight, more compact, and have simpler housings especially suited to normal duty work.

Rubber Attachment Cap

SOFT, resilient rubber is used in the construction of the new hand-grip attachment cap produced by Cutler-Hammer, Inc., 309 N. 12th St., Milwaukee. The terminal blades are attached to a bakelite disk embedded in the rubber base.

Because of the nature of the rubber compound, it is stated that strain on the cord is relieved and the possibility of the cord breaking at the end of the handle is minimized. Its construction renders it unbreakable and prevents it from marring floors, furniture, and other materials of like nature.



Pillow block with self-aligning roller bearing unit

Soft rubber construction employed in cord terminal plug

Questions . . . *and* Answers

Bow in Duck Fabric

Technical Editor:

We are making a 46-in., 20-oz. duck having a construction of 18x19. We are experiencing trouble with a bow of approximately 1 in. in the fabric. We are using standard temples and the warp is reeded one end per dent. We would appreciate your prescribing some method to prevent this bow. (7746)

It is almost impossible to eliminate entirely the bow in duck fabrics, but it is possible to reduce the amount of bow by the use of the proper equipment and the correct setting of the parts of the loom.

It is important that the loom is of a type that will weave heavy fabrics without any beating back of the cloth when the harnesses are opening for the subsequent pick. We say this because many mills will continue to try to weave duck fabrics on looms that are built to weave only sheetings; and our experience has been that it is practically impossible to weave a good piece of duck fabric, of the heavy type, on other than a heavy, duck loom.

If the breast beam and cloth rolls of the loom are not heavy enough to stand the strain of an opening shed, the cloth will beat back toward the reed. The parts mentioned above should be able to overcome the resistance of the loom beam letoff without any bending. It is the movement of the fabric between the fell of the cloth and the sand roll that causes the bending of the picks out of line.

Many mills use a corrugated spreading arrangement, located close to the temples. This prevents the cloth from contracting too much after leaving the latter. It is well to have the sand roll located as near the breast beam as possible; the further the woven cloth has to move before it reaches the sand roll, the greater is the chance for the pick to become bowed.

The reed wires should be extra strong, and the reed cap should be well reinforced, so there will be no bending of these parts when the pick is being beaten up. If woven on cams—either under or side cams—the dwell should be long, and the opening and closing of the sheds should be rapid.

The harnesses should be timed so that the shuttle will be moving toward the end of the shuttle box when the shed closes on the pick of filling. This insures a tight pick, and the tighter the filling when the shed closes on the pick, the nearer the tension of the filling will be to that of the warp, and the firmer the fabric.

If the looms are of the proper weight to weave the type of duck mentioned in the inquiry, there is no reason why the bow in the filling should not be almost eliminated.

▼

Back-Filling Problems

Technical Editor:

We should like you to advise us as to how we can produce a cloth similar to the sample we are enclosing.

We have analyzed this and find it to be a 40-in. gray cloth weighing 5.55 oz. per yd. and counting 36x40. This will finish 36 in.

We might explain that the cloth is used for pasting on the corners of corrugated paper boxes, and an exact duplication of finish is very essential. We are attaching hereto a piece of material that we have done ourselves to try to duplicate this, but you will notice our cloth looks entirely different. (7753)

The sample of cloth which you wish to duplicate is a heavily starched fabric, similar to ordinary book cloths. In trying to reproduce this finish, you have put the bleached cloth through a back-filling starch-mangle or a friction starch-mangle. On the first run you seem to have used a heavy starch mixture with considerable mineral filling, such as china clay or talc. After drying it appears that you have again run it through the back-filling starch-mangle with a starch mixture consisting of more starch and less mineral filling, together with the necessary dyestuffs to produce the required shade.

With a fabric having a count as low as 36x40 it is almost impossible to completely fill the interstices, and an inspection after drying will reveal many small pin holes. The back of the cloth will be rough and uneven. Therefore, when the cloth passes through the mangle the second time the pressure of the doctor blade forces the colored starch mixture through these holes and gives the result you have produced.

Considering that your analysis of the cloth shows that the grey goods are 40 in. wide, the following procedure is recommended: Kier boil, without singeing; bleach; sour or antichlor; and mangle and dry on the wet tenter frames at 36½ to 37 in., making the rolls about 2,000 yd. each. This is necessary in order to have the cloth even in width and free of all wrinkles, creases, etc., throughout the roll.

The cloth is then starched on a back-starching mangle or what is sometimes called a "Tommy Dodd." On this type of mangle the cloth is pressed against a wooden roll which brings the starch mixture up from the starch box as it revolves and which travels a little faster than the cloth. The cloth then passes over a stationary, brass doctor blade that scrapes off the excess starch and forces the starch mixture gently into the spaces between the threads. The cloth then passes onto a set of large drying cans, so that the starched side of the cloth does not come in contact with the cans until the starch is dry enough not to pick off by sticking to the cans. The cloth can be plaited in a box or batched on rolls when dried and returned to the same mangle or a similar one where it is given a second starching on the reverse side, the starch in this case containing the necessary coloring.

The following recipe is recommended for the first starching: 100 gal. mix—; 75 lb. corn starch; 75 lb. tapioca starch; 30 lb. sulphonated tallow softener; 50 lb. mineral filler (preferably talc); 20 lb. gum tragasol.

This mixture should be thoroughly agitated while coming to the boil and should be boiled well until all the starch granules have broken. The second starch mixture is the same, with the necessary dyestuffs added to give the desired shade. After the second starching and drying the cloth is conditioned, wound on rolls over a dampening winder, given a fairly heavy spray of water, and calendered on a five-bowl, cold calender with a heavy set.

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Finishing Spun-Rayon Fabric

Technical Editor:

I am enclosing herewith a sample fabric which has an 80/40 rayon warp with spun-rayon shantung filling. The gray width was 40½ in., and the finished width is 36 to 36½ in. A soft and silky finish was required, with about 6% warp shrinkage. This fabric was scoured and dyed a tan shade on a reel dyeing machine, extracted, dried on a net

dryer, finished on a two-roll mangle with sulfonated oil, and tentered to a width of 36 in.

You will notice upon holding the sample up to the light that it shows open effects in the warp. Can you give me any information which will enable me to eliminate this effect? (7721)

It is pointed out that the sample belongs to the poorer constructions of rayon crepes which are prone to exhibit open places. A close examination of the sample indicates, however, that the fabric has been processed too hurriedly or that it has been put in the rope form too early. Not only are there numerous open places warpways of the goods, but there is evidence of several dyebreaks or cracks. Owing to the extent to which spun rayon expands when moistened, extreme care must be exercised in the initial stages to set the crepe correctly in all fabrics containing this type of yarn.

Continuous methods of handling these fabrics are advisable, as they reduce the cost of processing, and minimize the liability of damage. We recommend that you pad the gray goods in 6° Tw. caustic soda solution at 85° F., plait into open trucks, and allow to lie for 45 min. Next transfer the goods to the reel machine. Remove the caustic as completely as possible by rinsing, and scour the goods with 2% olive oil soap, ½% soda ash, and ½% emulsified solvent, gradually raising the temperature of the bath from 120° F. to 185° F. Dyeing temperatures should never exceed those attained in scouring.

If a padder is not available, a preliminary treatment 30-min. with a 4° Tw. caustic soda solution at 85° F. should be given in the reel machine. The goods are then rinsed and scoured.

If neither of these methods proves satisfactory, the goods will have to be handled in the manner employed for real silk. The fabric is suspended in an open tub from sticks by means of strings threaded through the selvage, treated with caustic, and rinsed. The goods are then transferred to the reel machine, scoured, and dyed.

One point worth mentioning is that these goods are better extracted at open width, either with a vacuum extractor or in a roll hydro-extractor. Care must be taken to prevent creases in the fabric as it passes through the two-bowl mangle; otherwise the spun silk is liable to receive permanent damage.

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Shawl Weave

Technical Editor:

I was interested in reading your answer to Question No. 7630 as published in your issue of Oct. 24. As I have had experience on this type of work, I am inclosing my version of the layout for this double plain weave.

You will note that the fabric (Fig. 1) has an all-white warp and a two-color filling. It is picked two and two, one color showing on the face and the other on the back. If it is desired to have the color blocks running lengthwise of the

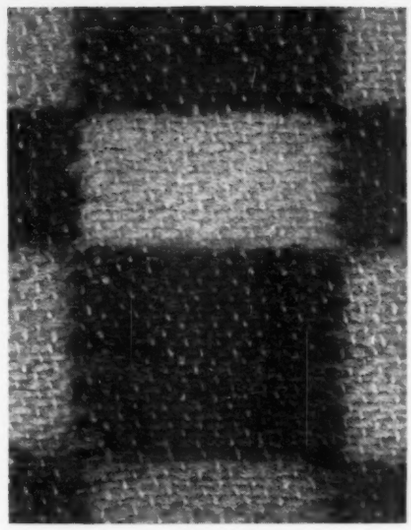

Fig. 1

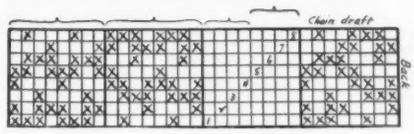

Fig. 2

cloth, observe fully the following rule:

2 blue, 2 red } repeat as often as desired.

2 red, 2 blue } repeat as often as desired.

The construction of this fabric is 28 x 34, and the sample was cut from a blanket which has been in my family for a period of about 50 years. It was made in Bately, Yorkshire, England. The nap has been worn off, so that the warp ends show through in the sample.

The weave (Fig. 2) requires eight harnesses and the same number of bars in the chain. Draft 1, 2, 3, 4 and 5, 6, 7, 8, as required.

HARTLEY BEAUMONT.

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Horizontal Streaks in Knitted Fabric

Technical Editor:

We are enclosing herewith samples of blue and brown knitted fabrics made from 2/40s worsted and a rayon end. Under certain lights there appear to be bars running across the fabric, the cause of which we are unable to determine. We understand these were knitted on a circular jacquard machine. (7708)

The blue sample was found to have a bar running across the fabric at every eighteenth course. A piece of the sample 100 wales in width was taken, and enough courses were raveled to show any variation in stitch length. On the course where the streak occurred, the stitch was found to be longer than on any other course. This was one of the worsted ends; and it is therefore safe to assume that one feed drawing a longer stitch than the others was responsible for the streaky defect. The streaks or bars in the brown sample were caused by different shades of rayon ends. The rayon is of lighter shade where the streaks occur.

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Finding Count and Weight of Woolen Yarn

Technical Editor:

I should like to learn the rule for finding the count (in grains) from a short length of yarn. The following example may make my question more clear; 25 in. of woolen yarn weighs 5 grains. The yarn is 0.6 run and weighs 145.8 grains. Can you give me a rule for finding the weight in grains without finding the count in runs and then changing it to the grain form? (7732)

When you say that a 0.6-run yarn weighs 145.8 grains, it is evident that you are using a 20-yd. basis as your standard. We believe that the following calculations will furnish you with the information which you desire:

$$25 \text{ in. or } \frac{25}{36} = .695 \text{ yd.} = 5 \text{ grains}$$

$$\frac{5}{.695} = 7.2 \text{ grains per yard.}$$

$$7.2 \times 20 \text{ yd.} = 144 \text{ grains.}$$

It will be seen that the latter figure does not coincide with your figure of 145.8 exactly, but the difference is due to the inaccuracy involved in the measuring and weighing of a short length of yarn. The formula you desire may be condensed to the following form:

$$\frac{720 \times (\text{wt. of sample length in grains})}{(\text{length of sample in inches})} = \text{grain count.}$$

▼

Finishing Men's Wear Fabrics

Subsequent to the publication of inquiry No. 7698 which appeared in the Oct. 31 issue of TEXTILE WORLD, we have been informed that several types of equipment not mentioned in our reply are being used successfully in imparting satisfactory tailoring qualities to a half-blood, 12- to 13-oz. men's wear fabric. Two of the machines which have been recommended for this purpose are the mantle steaming and cooling machine, made by Curtis & Marble Machine Co., and the cooling and conditioning machine built by Manufacturers Machine Co. We shall appreciate it if our readers will advise us of any other makes or types of equipment which are being employed in this connection.—*Editor.*

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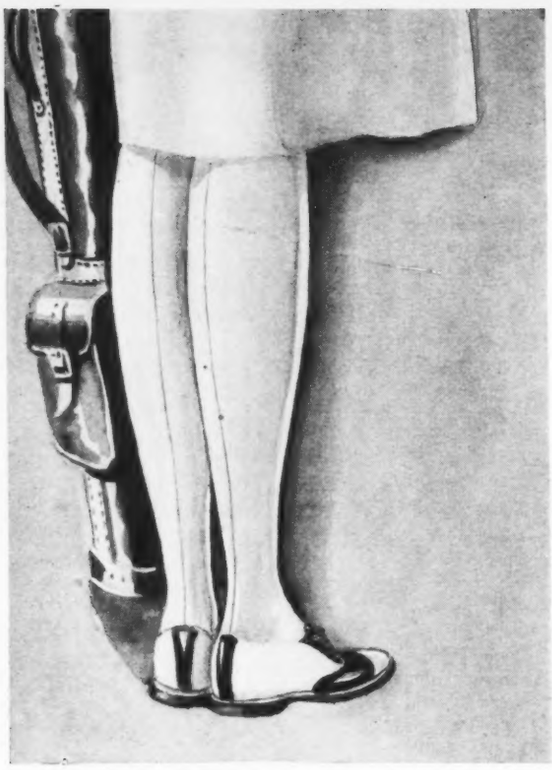
Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.



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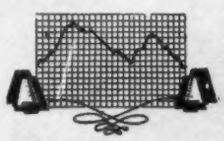
TEXTILE WORLD ANALYST

Unfavorable Cotton Outlook Not Relieved by Holding

By Dr. L. H. Haney

SUMMARY

A truly enormous surplus of raw cotton and the absence of any independent strength in the goods market, tell the story. The present situation is largely due to past artificial holding of supplies, and the unfavorable outlook is not relieved by extension of that policy.



EFFORTS to arrange for the "holding" of millions of bales of cotton serve to emphasize the enormous supply of surplus cotton. There is every indication that the carryover of American cotton at the end of the season will be in the neighborhood of 13,000,000 bales, or more than 4,000,000 bales above this year. Even if the next crop were cut to something like 8,000,000 bales, we would start the year 1932-33 with a supply of American cotton around 21,000,000 bales.

Such figures carry the total supply beyond the normal limits of demand, as judged by our past experience. The situation suggests necessity of such low prices as will invite unusual uses of raw cotton and new sources of demand, if production is to continue. It is impossible to say what price may develop under such circumstances. Cost of production is hardly a factor. It seems rather likely that 7c. at New York is now a maximum.

It is notable that plans for crop curtailment and holding make little impression on the market. Possibly the supply is too large; if it would take a complete shut-down by cotton farmers for a year to restore the balance, obviously a 50% reduction is not enough. In addition, there is a question as to the ability of the southern banks to carry the credit burden they are assuming.

Recent Japanese buying should not be expected to continue. The Japanese know the supply situation as well as anyone. The rush to buy strongly suggests a belief that the yen will be reduced in value before long and that the recent spurt resembles the English buying which followed the suspension of the gold basis for the pound sterling.

Bull Points

1. The Farm Board and southern bankers have agreed to finance and withhold at least 6,500,000 bales from the 1931-32 market. This encourages the large amount of holding by individual farmers.

2. Several southern States plan to cut the next crop up to 50%, and the Farm Board promises to hold till 1933 if large cuts are made.

3. The Egyptian government has issued several decrees which aim at a drastic reduction of acreage.

4. The visible supply of cotton in Europe is less than a year ago.

5. World consumption of American cotton was larger than last year during October, as well as for the three months from Aug. 1 to Nov. 1. British mill activity increased considerably.

6. Domestic consumption of cotton was larger than last year during October, and the first three months of the crop year.

7. Domestic mill stocks of raw cotton on Nov. 1, were 237,000 bales below a year ago.

8. Stocks of carded sales yarn declined again in September.

9. Unfilled orders of carded cotton cloth made a sharp gain in October.

10. The cooperatives have bought spot cotton to replace futures.

Bear Points

1. Foreign countries are in an unstable condition; British manufacturers report a falling off in Chinese demand; Continental activity is dull and the manufacturers can buy little cotton, either because of their poor credit or our prices out of line.

2. The world visible supply of American cotton is much larger than last year, and a large part of it is in the show window.

3. Cotton ginned to Nov. 14 was 14,210,000 running bales, compared with 11,963,000 to the same date last year, confirming the higher crop estimates.

4. Exports for the period Aug. 1 to date are less than in 1930.

5. Domestic stocks of raw cotton on Nov. 1 were about 19,900,000 bales, compared with 14,400,000 bales last year.

6. Replacement margins of manufacturers in October were the lowest in years.

7. October consumption of raw cotton by domestic mills was at the lowest annual rate since February; mill curtailment is growing as stocks accumulate and goods prices weaken.

8. Unfilled orders of carded sales yarns declined in September.

9. Stocks of carded cotton cloth and of finished cotton goods have increased.

10. Very slow business in finished goods; orders for finished goods have fallen more than production.

11. Renewed weakness in commodity prices, especially silver.

As offsets to the enormous surplus, we find the movement to hold old crop supplies and reduce the new crop. As offsets to the growing depression in the textile industries and curtailment of domestic mill activity forced by weakness in the goods markets, we find a spurt in English buying followed by a similar spurt in Japan. Thus the chief bull points appear to be rather temporary and uncertain. Either lower cotton prices must come now and prices remain very low until the supply is adjusted to the demand, or we may expect a prolonged period in which prices will be held irregularly around some such figure as 6c. Holding cotton now prevents good prices later on.

Statistical Position

Developments during October tended to weaken further the domestic statistical position of raw cotton. Our adjusted index of the average daily consumption of raw cotton by the domestic mills was above the level of a year ago, but was the lowest since last February. There

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

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has been a gradual downtrend in the amount of cotton consumed since the peak of the current textile cycle was reached last April. Exports of raw cotton increased considerably in October, and exceeded last year's figure; yet, with the exception of last year, October exports were the smallest for the month since 1924.

During the first three months of the crop year, there has been an increase in total domestic consumption of about 160,000 bales over the same period in 1930, while exports from Aug. 1 to Oct. 1, were the smallest for any similar period since 1923. The net result for the first quarter of the present crop year is a decrease in total distribution of about 329,000 bales compared with last year.

The estimated total supply, already large because of the huge carryover and large crop, has been augmented by successive increases in the crop estimates. Thus the supply available for the remainder of the season has increased until at the end of October it was approximately 5,320,000 bales greater than last year, a new post-war record for that date. Our seasonally adjusted index of the average monthly available supply has increased more rapidly since Aug. 1 than has been the case in any similar period in recent years.

The replacement margin of the average cotton manufacturer was the lowest for any October in a long period of years. It declined from September, and was close to the post-war low of July, 1924. In view of the unsatisfactory level to which this margin has fallen, it seems that mill consumption will probably have to decline further.

World consumption of American cotton, however, was estimated by the New York Cotton Exchange Service to have been larger in October than in September, and the total for the first three months of the crop year exceeded 1930 by 300,000 bales. British mills have been consuming considerably more American cotton than a year ago, and the visible supply of cotton in Europe is below last year. These conditions tend to maintain our exports, especially since American cotton is more favorably priced than last year in comparison with foreign growths.

The price of raw cotton has been weaker recently and the October increase now looks like a mere "technical rally." While cotton is cheap and foreign consumption has increased, it is not improbable that the previous low may be reached if not broken. The further decline in general commodity prices through October increases this possibility.

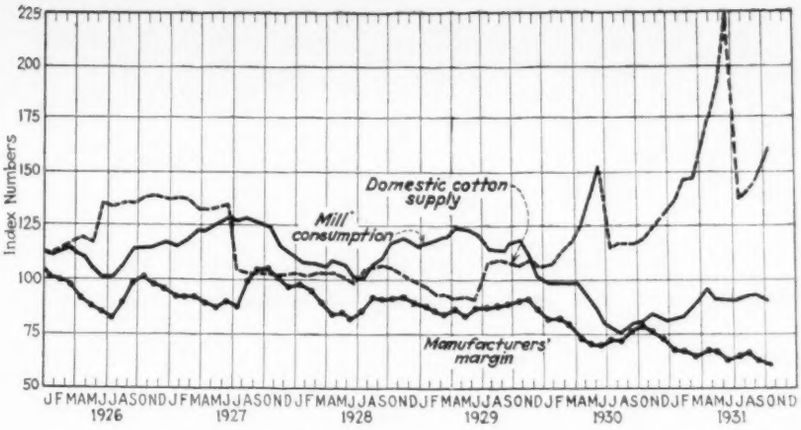
Index Numbers
225
200
175
150
125
100
75
50
Domestic cotton supply
Mill consumption
Manufacturers' margin
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

Fig. 1. GENERAL COTTON BAROMETER: Consumption—Average daily adjusted for seasonal variation, three-month moving average: Manufacturers' Margin—Average of replacement margins; Average Monthly Available—Net domestic available for crop year adjusted for seasonal variation. 1921-1926 = 100 for all indexes

Cotton Stocks Larger

The trend of gray goods prices was downward during most of November, the decline being largely influenced by the trend of the raw cotton market. The price of cotton probably fell a little more than gray goods prices in November, and replacement margins may, therefore, have improved slightly. The average gray goods margin during October, however, has been the lowest for recent years.

The statistical position of cotton cloth and gray goods has weakened during recent months. The trend of the stocks of finished cotton goods has been irregularly upward since June, due allowance being made for the normal seasonal changes. The stocks of carded cotton cloths increased more than usual during September and October. These increases in stocks occurred despite the fact that production was curtailed.

Our gray goods barometer, which is based on the relationship between production and consumption of finished cotton goods, has turned down sharply. Production has been curtailed, but not enough to equal the decline in new orders received. Any considerable decline in this gray goods barometer has usually been followed by lower prices for gray goods and finished cotton cloth.

On the other hand, the unfilled orders of carded cotton cloths gained much more than usual in October. This, however, appears to have been due to a decline in shipments. The action of this index indicates that shipments were well below sales, and suggests that production will probably be kept under fair control. Moreover, although the trend of stocks has been upward in recent months, it must be remembered that the physical inventories are still low. Jobbers' sales at New York increased in October. It seems probable, therefore, in light of these developments, that production may be so curtailed that any further declines in cloth prices will no more than equal the reduction in raw cotton prices. A sufficiently drastic curtailment in mill activity obviously might bring a better replacement margin even with declining prices.

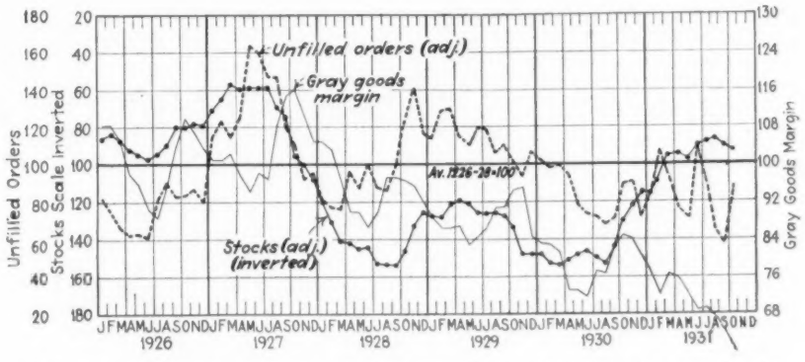

Fig. 2. COTTON CLOTH BAROMETER: Unfilled Orders, Stocks (inverted) Adjusted for Seasonal Variation, Association of Cotton Textile Merchants of New York. Gray Goods Replacement Margin Based on Textile World *Index. Average for 1926-1928 = 100 for three indexes.*

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Cotton Yarns
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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarn Prices Are Nominal

LIMITED activity marks the cotton yarn trade. Spot delivery yarns lead in what little interest is reported with the result there is almost no volume business being done. The close of the year, however, has usually been a dull month, although this year there has been no volume of business immediately preceding December. While there is of course interest in the Government cotton report Dec. 8, it is hardly expected this will add anything new to the situation. Some gratification is derived from the fact that cotton has held rather steadily for the last week or two and while the market is down from the top, it is still about 50 points above low for December contract.

Many spinners however are beginning to betray anxiety over their lack of orders, causing more or less irregularity in prices. With sales scattered and no special demand noted for yarns, prices have little opportunity to reach any established basis. Values are practically nominal and quotations mean little or nothing, without complete knowledge of the facts involved. Dealers of many years' experience say they no longer are surprised at any price they hear. Two weeks ago a house reported confidentially a sale on the basis of 13¼c. for 10s. Now it feels no disposition to conceal the fact, and would consider 13c. to keep the mill in operation.

Yarn consumers are still operating in scattered fashion, with their own sales in small volume so that they have little disposition to buy yarns in any quantity. Therefore, what business is reported is confined to small lots for spot delivery. Where a spot shipment of 30s-2 warps brought 21½c., quotations on later deliveries run around 20 to 20½c., with 20s-2 warps at 16½c.

Carded knitting yarns also are quiet with reports of requests for delayed deliveries on these yarns because of falling off of orders. On 10s, average quotations are 13½ to 14c., with emphasis on the lower side; 18s at 15½ to 16c.; 30s at 21c.

Combed yarns have been showing weakness, especially on fine counts where the outlets are more limited than in the numbers up to 38s. With spinners seeking business in every possible channel, often outside their usual fields, it is easy to comprehend price irregularities, which do not in any way establish market values, with spinners quoting figures shown on page 70, and the lower numbers in a better position than the finer counts.

Intense price competition on combed qualities, both gray and mercerized, continued this week in southern yarn centers, but inquiries have been slowing up. Leading processors have attempted to stabilize the mercerized yarn market, but their efforts thus far have apparently met with little success. Sales of mercerized qualities in the last 10 days according to current reports have been made as much at 5c. under the nominal list which is based on 50c. for 60s-2 cones. This situation is not regarded with favor by yarn consumers, but a few have taken advantage of low prices to place sizable contracts running into the last quarter of 1932. Carded yarns on the whole have been considerably more active than combed qualities, but here again prices are not based on sound cost figures; 20s-2 sold as low as 16c., with 17c. the average, while 30s-2 were quoted at 20c.

◆Cotton Market Lower With Demand Scant

THE decline of last month extended to the 6c. level for January last week under continued liquidation of old long accounts coupled with some southern selling or hedging and perhaps some local selling on the unsettled ruling of the stock market and the failure of most other commodity markets, including silver, to hold recent advances. At these prices, which represented declines of a little over 1c. a pound from the high levels reached on the late October advance, the market showed indications of increasing resistance. The trade which had been rather a persistent buyer on scale down orders during the progress of the decline appeared to be taking more contracts out of the market, and it seemed that the decline had strengthened the technical position as there was considerable covering. Demand was supplied on comparatively moderate bulges, however, with business

(Continued on page 65)

Market Briefs

Cotton: Wavering market shows resistance to bearish trend.
Cotton Yarns: Dull market except where private concessions are offered.
Cotton Goods: Buyers of gray goods take action to stabilize market; other lines dull.
Wool: Steadier trend encourages dealers and results in more buying.
Worsted Yarns: Only limited demand but spinners look for improvement after new year.
Woolen Goods: Cold stimulates demand; blankets active.
Silk: Stronger price tone encourages importers.
Silk Yarns: Spun and thrown silk both quiet.
Silk Goods: Good early call for plains and prints; prices steady.
Rayon: Seasonal decline shown; sentiment confident.
Knit Goods: Christmas hosiery buying at peak; total well below 1930; slow duplicate call for ribbed underwear; winter sweaters and bathing-suits in better demand.

◆Worsted Yarns Find Limited Demand

WITH the opening of December, the worsted yarn trade is not looking forward to any great activity. Manufacturers are reluctant to add to inventories and their specifications are being limited to small quantities for definite, immediate needs. However, many factors are disposed to regard the business of 1931 as comparing favorably with past years in volume.

Specifications are coming in fairly well, without any tendency to rush deliveries, but new business is limited and small in size. The wool market, however, continues as a favorable factor, with values holding steadily, and indicating a good position of the raw material. Pulled combing wools especially show advances in values, and several spinners report some profits shown on purchases about Nov. 1.

With the continued hold-up of any volume in the fabrics market, many factors are beginning to wonder if this season is lost entirely, or merely delayed. While it is admitted this lost time can never be made up, the average factor regards the season as merely delayed, and is looking for business to develop late, before or at the end of the year. As one yarn dealer asserted, it seems that the average weaver had figured his prices on 100, 200 and even 300% of single shift production, anticipating running overtime. They have been sadly disappointed in realizing this business, and it is possible for them to figure on only about 75% production.

Sampling for next season's business is noted, with small lots taken in a great variety of yarns. In men's wear lines, this sampling is noted in 2-28s, 2-30s, 2-32s and 2-36s, chiefly in fancy mixtures and twists, with 2-30s at $1.35; also 2-40s in the gray at around $1.25 to $1.30 for 64s. These yarns are being taken in fine, half-blood and three-eighths. Dress goods mills are reported sampling in usual numbers with fine woolens and fancy twists prevailing.

It is expected that bathing suit manufacturers will begin to come into the market soon for yarns for deliveries beginning in January. At present interest is limited and rather scattered. Sampling in knitting yarns for various lines is also reported, including 2-24s and 2-26s, quarter-blood mixtures, for fancy sweaters, and zephyrs in 2-20s to 2-30s and single 20s. This last number is quoted around $1.10 in the oil for French spun yarn. Present sales of knitting yarns are reported in limited volume, as knitters are anxious to keep their inventories as low as possible, so as to make a good credit showing. Yarn dealers express the hope that knitters

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The manufacturing policy of the Whitman group of mills contributes effectively to successful, low-cost textile production • Extraordinary care in selecting wool and cotton and scientific control of processing combine to produce finest quality yarns—uniform, strong and free-running • The raw material undergoes closest inspection and test • It must meet not only regular trade classifications, but also the exacting standards set by each of our individual mills • At every step in their manufacture, Whitman Yarns are vigilantly checked • Each mill employs a competent staff of technologists whose sole responsibility is the maintenance of standards for both raw materials and output.

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

will be more conservative in naming prices on garments for the next season, since, with continued firmness in wools, spinners are not willing to operate at a loss to meet the low prices named by a few spinners, whose policy has seemed to be to book business at any price.

◆Domestic Wools Retain Firm Position

PRICES on domestic wools show a hardening tendency and confidence in the market is on the gain. The steady undertone is attributed in large part to the strong statistical position of domestic wool. The trade has nothing larger than a normal aggregate supply with a marked scarcity in the medium grades. The foreign situation is no source of uneasiness and although the usual desire on the part of mill purchasers to keep year-end inventories low will tend to hold in check immediate purchasing, such pent-up buying is likely at the turn of the year to break out in good volume.

Fine staple wool continues somewhat neglected in favor of the lower-priced 12-months Texas. French combing wools have been in fair demand bringing on the fine side 55 to 56c. with 53 to 54c. for the shorter wool containing a percentage of clothing. Original bag wools have moved less firmly than graded wools, but the general basis is unchanged from a week ago, the Colorado and New Mexico at 50 to 52c., Utah and Nevada 52 to 53c., Montana and Wyoming, 53 to 55c.

Half-blood and three-eighths-blood territory wools are on a firmer and higher basis than a week ago. Some mills are trying to buy cheaper wools, but if they really need the wool they seem willing to pay the price.

A feature of the wool market along the Atlantic Seaboard during the latter half of November was the increased interest shown in wools of the woolen type, seen especially in medium secured pulled wools.

The strong opening of the last series of the year in London wool sales was a foregone conclusion owing to higher prices made at the Australian centers since the closing of the previous London sales Oct. 7, revival of the British wool manufacturing owing to advantages following the abandonment of the gold standard, and lively anticipation of a much larger business by the passage of an emergency; tariff shutting out competing imports of manufactured goods. Merinos gained 5%, fine crossbreds 15% and medium to low crossbreds 10%. Part of this advance must however be attributed to the lower rate of exchange of 3.66 as compared with 3.86 on the closing day of the previous auction.

◆Noils and Mill Wastes Stiffen

BUSINESS in woolen rags and reworks continues dull with manufacturing interest spotty and confined to the purchasing of small quantities of the cheaper colored rags and clips. Graders are being held back by the very low prices that mills will pay on the one hand and their own disinclination to place further quantities of rags into stock.

From present appearances the rag trade is likely to come to the end of the year with a small inventory of graded rags such as the merinos, light hoods, white knits, and the better class of serges and worsteds. Orders for reworked wools are arriving for small quantities only and it is hardly likely that the industry is running more than 30% capacity.

Business in wool wastes has been larger than a week ago, and here and there slightly better prices have been obtained on good materials. So far as the low-priced colored threads and cards are concerned they are on such a low basis as to put them in the class of strong competitors with certain cheap rags and recovered materials. The demand for white wastes such as laps, cards and threads is somewhat stationary and prices also. No further deflation in valves is regarded as likely. The stronger wool position is helping sentiment.

◆Rayon Curtailment Helps 1932 Outlook

RAYON yarn sales show a steady seasonal decline with the approach of the holidays, manufacturers being disposed to defer 1932 orders until they have passed their inventory period. Knitters and weavers place fair spot business, and a good call is reported from manufacturers of rayon flat crepes; all such orders are small however and on a strictly spot basis. Lining manufacturers are especially hesitant, which it attributed to uncertainty as to whether viscose or acetate process yarns will be dominant in the new season's linings.

Rayon prices hold steady and manufacturers do not look for any drastic developments in January. Yarn producers are trying to get their production below the 80% figure but few have done so, thus far. Stocks on hand now are equal to possible 8 weeks demand which is above normal. The clear determination of the smaller rayon companies to curtail, is viewed as a good sign for the new year. If the trade cuts drastically at once, it should end the year with not much more than 30-days supply, but even if curtailment is not as pronounced as that, the current policy of restraint is decided enough to make the outlook encouraging. As a whole, producers are optimistic about prospects for the first quarter of 1932.

◆Low Silk Levels Hit Spun Yarn Sales

THE prevailing low price of raw silk permitting certain of the reeled yarns to sell at approximately the same price as spun, is being blamed by silk spinners for the lack of buying in their division. Spun silk usually is moving actively at this time; normally spring is the spinners' best season but this year the outlook is doubtful as only a small percentage of spring business has been placed. Spinners are rather hesitant about December prospects; they are hoping for a firmness in the primary market which they believe would do much to stimulate call for spun yarns. Spun yarn prices hold steady, thanks to low stocks.

Throwsters find difficulty in getting any sizeable orders either from knitters or weavers and are patiently waiting for some improvement. Several leading thrown silk firms this week said business was virtually at a standstill. Prices have not been softened by the weak demand, as production is being curtailed and there is little pressure to clear.

◆Better Feeling In Raw Silk

DECEMBER brought a slightly firmer tone in the raw silk market, for a few days, but levels suffered a sharp drop on Thursday. Yokohama has softened materially but there were indications of a tightening at moment of going to press. New York importers entered the twelfth month in considerably better mood and they expect to see the year-end marked by spirited buying. This is nothing more than a hope so far but they base it on the reasonable argument that manufacturers have virtually no stocks on hand.

Current developments tend to substantiate the expectations of an active December; Monday and Tuesday brought an increase in future contracts and the New York raw silk market held steady despite some uncertainty in Yokohama. There is little likelihood of any drastic reversal of the hand-to-mouth buying policy by manufacturers, unless finished products take on unexpected activity, but spring production of both knit and woven merchandise is backward and some moderate acceleration of output may be looked for shortly.

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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Buyers of Cottons Plead for Stability

THE print cloth situation has become so intolerable for buyers because of the instability of prices that they have taken the matter in their own hands. Heads of about 20 of the largest houses using print cloths have this week journeyed South to meet with cotton manufacturers to explain the market situation to them in the hope of developing cooperation which will result in further restrictions on production and more stable prices. This action, whatever its result, makes plain the sincerity of buyers in wanting firmness in prices rather than lower quotations. The fact that they could not buy one week for fear of their competitors buying at a lower figure the next week, has been a real barrier to broader business.

It was stated in this column several weeks ago that mills were quoting figures which netted them a loss of 2 to 3c. per pound on all sales. This still seems to be true, but buyers, instead of benefiting from these low and weakly held prices, have found their market getting more and more chaotic. Their customers in turn have no confidence in finished goods prices and no progress is being made. The need for action has become acute because of the opening up of the spring season. It is pointed out that the visit of buyers to mills may bring a request from mill men that users offer some sort of assurance regarding quantity of goods which they will use during the season and they are doubtless prepared to make some kind of a statement on this subject. More important, however, is the influence which these buyers may exert toward gaining more general adherence to the industry's curtailment policies.

The price current at midweek for 38½ in. 64x60s was 3⅜c. This is about the bottom for the movement, while raw cotton, though wavering, is still above its lowest levels. The movements of the two markets are not in sympathy and the comparison is to the detriment of the cloth market. Sales were in only small lots and the totals have not been impressive. Advent of year-end inventory time makes it unlikely that there will be any broad movement of goods under any conditions until after the end of the year. However, at present a firm foundation may be laid, if conservative intelligence is used, which will bear desirable fruit in the market after the turn of the year.

Retail sales of cottons are reported to be moving fairly well but at low prices and with retailers poorly stocked to display a wide variety of goods. Even for the January white sales, retailers' coverage has been scant. It is understood that colored-hem sheets and pillow cases are selling for the holiday season on about the same scale as last year. A greater push is in sight for percale sheets, with makers and distributors anxious to take advantage of present low prices to educate the consumer up to these quality products. The scant covering for the white sales suggests that an actual scarcity may develop in January since manufacturers are not making up goods ahead of actual orders for them.

Business on branded lines of some specialties has held fairly well and many manufacturers are planning soon to do more than they have in the past to arouse and hold consumer interest. More extended promotions may be expected, particularly from houses whose products are already fairly well known. There is growing recognition that the goods are not really sold until they have passed into the hands of the consumer and that intelligent effort directed toward the consumer is likely to show results of a satisfactory and lasting character.

◆Brief Cool Snap Aids Wool Goods

LOWER temperatures in the Atlantic and New England States have brought encouragement to wool goods mills and, in New England at least, have directly stimulated demand for merchandise. The colder weather has not lasted long enough to have any real effect on the market as a whole, however, and the problem of accelerating spring goods sales is far from solved. Flannels are quiet, few winter resort orders being available as yet. Blankets have improved considerably during the last few days, especially in the New England area where winter seems to have finally arrived; mills report a decided pick-up in orders and are hoping that the activity will continue.

In worsteds interest centered on the price reduction announced by a leading suit house which weavers hope will stimulate garments and have a favorable reaction on worsted fabrics. Cutters-up of worsteds seem slightly more confident and have placed some spring business but volume is far behind normal and the outlook remains uncertain. Worsted prices in New York continue keenly competitive, especially among the smaller mills, which has had a deterring effect on sales. Price, however, is less of a hindrance than weather conditions and it seems likely that once the Atlantic States settle into maintained cold weather, a sharp pick-up in sales will result.

Fabrics for children's wear should be active at this time, but mills find little interest. Women's wear lines move unevenly and there has been only a hesitant response to the spring openings.

◆Plains Rival Prints In Spring Broadsilks

THE increased demand for spring broadsilks which has been apparent during the last ten days is about equally divided between plain and printed fabrics. This rise of plains to a 50% position in the spring season is unusual and is regarded as significant of the growing importance of solid colors as a year-'round proposition in broadsilks. Style is such a variable factor, that it would be hazardous to count too strongly on this trend; prints are still a leader with numerous important houses, and the variety of designs being offered is pleasing and original enough to quicken wide interest; the activities looking to more protection of designs also should help to strengthen the position of prints this season, as wholesale pirating of patterns was one of the chief causes for the collapse of these lines last spring.

Fabric manufacturers note greater confidence among cutters-up; retailers are still holding off, but better response from the latter is expected to develop after the holidays. There seems to be no outstanding preference in prints as yet; both geometrics and florals are moving steadily. Cutters are averse to future commitments but a substantial quantity of spot business has been placed. Prices hold firm on both prints and plains, and mills are cautious on output. Provided the new policy of restrained production of prints is adhered to, levels should remain firm for the next six weeks, at least.

▸Textiles Wanted by Navy Dept.

The Bureau of Supplies and Accounts, Navy Department, Washington, has asked for bids on the following: 4,000 lin.yd. 28-in. turkish toweling; 6,714 lin.yd. glass toweling, 22-inches wide in bolts of commercial size; 60,000 yd. cotton unbleached cheesecloth, 36 inches wide; 1,700 bleached cotton sheets, torn length, hemmed 2-inches each end, 63 by 108, and 6,000 pillow cases, cotton bleached type A, 42 by 36. All bids to be opened Dec. 15 at 10 a.m. at the Washington office.

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200 Madison Avenue New York City

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Weather Big Factor In Underwear Sales

MANUFACTURERS of ribbed underwear are still awaiting the expected rush of reorders. Demand took a sharp drop ten days ago which was ascribed to the unseasonable weather; the drop in temperature following Thanksgiving Day has stimulated buying but not to the degree the trade hoped for. Rayon underwear sales in particular have slowed down; the price advance that was precipated by the rise in 150 denier yarn levels met with cool response from distributors; lightweight cotton garments on the other hand have enjoyed good call. There is little or no future business on spring lines but manufacturers report a consistent spot call, notably for shirts and shorts.

Manufacturers of ribbed underwear look for a continuation of sales with fluctuations well into January and it seems almost inevitable that the 1932 openings will be delayed to February, at least. One firm which usually opens in late February is now planning its new lines on the basis of March openings. The redeeming feature of heavyweights is the firm price tone that prevails; thanks to low stocks levels have held steady throughout the fall, despite several breaks in the primary market and there seems little likelihood of any serious recession in heavyweight prices before January.

◆Christmas Hosiery Outlook Just Fair

BUYER interest in women's full-fashioned hosiery has been increased by the colder weather of the last few days in the Eastern States and manufacturers are hopeful that this will continue. Christmas volume has been far below expectations and while a rush now prevails, it is doubtful that the brief period remaining will bring anything like the holiday trade of other years. Early in the week, representatives of leading full-fashioned mills estimated that a bare 50% of the expected holiday orders had been placed.

The call in women's hosiery is mainly for novelties and the industry is speculating on the prospects for this type of merchandise during the first half of 1932; it is accepted that meshes and lace-tops are due for a prolonged stay but it would be dangerous for manufacturers to build up stock on this assumption.

Meanwhile, however, there is good profit to be made by judicious companies in mesh and lace-top lines. Price levels in that range are steady, stocks are moderate and the demand is spirited. What will happen to mesh hosiery, after Christmas is anyone's guess. Certainly, the quality lines retailing at $2.00 and upward appear to be established for formal wear.

Mill sales records show increased call for half-hose staples, with prices decidedly firmer than in half-hose fancies, and there is talk of a revival of staples.

◆Winter Sweater Sales Improve

A SLIGHT increase in reorders for winterweight sweaters has resulted from the colder weather of last week-end, but mills do not look for any great duplicate business. The season has been a difficult one to estimate, with buying all compressed into a few weeks and with an abnormally warm fall tending to discourage orders even at this late date. Firm prices helped to compensate for the hesitant movement but few firms will close the season with any great satisfaction. Lightweight sweaters are in fair call. There has been surprisingly good movement of sweatshirts reported by some Worth Street factors, with prices allowing for fair profit.

Subsequent to writing the above, reports from Wisconsin and other Middle-Western outerwear areas indicated a sharp improvement in demand for all winter outerwear lines there; men's and boys' garments moved spiritedly, the call being chiefly for crickets and heavier sweaters.

Bathing-suit sales improve slowly. The demand appears to be about evenly divided between dark and pastel shades. Navies and blue-blacks are important in current orders, and there is also much interest in lively color combinations.

▸Hosiery Ass'n Sees Japan Likely to Drop Gold Basis

Asserting that "there is at least a possibility that Japan will abandon the gold standard before the end of January," the Special News Letter of the National Association of Hosiery and Underwear Manufacturers, issued last Wednesday, urges mills "under no circumstances to cover silk requirements beyond approximately Jan. 15."

This recommendation by the hosiery association to limit silk contracts to nearby contracts was drawn to the attention of H. Shiga, secretary of the Raw Silk Association of Japan, in New York, by TEXTILE WORLD, Thursday, and he made the following statement:

"The present Japanese Government is strongly opposed to abandonment of the gold standard and will undoubtedly hold to that policy. No one can say how long the Government will remain in office, however, as the political situation in Japan is very delicate."

◆Raw Cotton Reports

(Continued from page 59)

becoming quiet and later fluctuations irregular, within a few points of the lowest. The tendency to buy seemed to increase as the market approached the previous low records of the season, which, it may be recalled, carried January off to 5.58 and May to 5.96.

There has been nothing to show that the action of the futures market has disturbed the southern spot situation. Spot demand has fallen off owing to the high basis, but current offerings appear to have been quite readily absorbed with the cooperative interests and Japanese houses reported good buyers. Brokers with Japanese connections have figured more prominently than usual as buyers in the southern markets this season so far, and the impression is gaining ground here that the Japanese trade has adopted the policy of stocking up out of the present big crop of high grade and good staple cotton.

The outlook for uniform State legislation on the question of acreage seems to have become a little less likely. It seems a difficult proposition to frame legislation which would fit conditions as well in one State as another, but a movement is now said to be under foot to educate the South to the necessity for a uniform and large reduction.

The weather has been less favorable for the last two or three weeks but nearly the whole crop has been picked except in some few sections of the belt, and the damage is supposed to have been chiefly to grades. This is not altogether unfortunate as there has been a scarcity of low grades so far with ginnings prior to Nov. 1, 1931, showing 84.3% of white middling and better compared with 78.1% last year.

◆Comber and Strips Most Active Wastes

PEELER comber, peeler and upland strips, and spinnable wastes from Egyptian cotton are quite active. Threads for machining are dull, as are picker and fly. It is possible that more business could be done in threads if holders were willing to accept the low bids made by prospective buyers; this waste, however, is firmly held at 3½ to 3¾c.

There are no large stocks of good comber available and in many instances dealers find it extremely difficult to pick up this waste to cover commitments at less than 5¾c.; spinners are willing to pay 6 to 6¼c. for good grades. Export demand for this material is holding up very well, and recent shipments have been substantial. Choice peeler strips are moving quite freely on a basis of 5¼ to 5½c.

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TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆Stockholders Oppose Liquidation Plans

AS A result of the vote of confidence expressed in the management at the annual meeting of stockholders of the Grinnell Mfg. Co., held at New Bedford, Mass., last week, the present board of directors was re-elected for the coming year insuring operation of the plant when conditions improve.

Walter H. Langshaw, president of the Dartmouth Mfg. Co., who had requested immediate liquidation, had prepared a slate of officers favorable to his plan, but in an exceptionally close vote for control, the Andrew G. Pierce group was victorious by 5,967 votes to 5,036 for the Langshaw faction.

Andrew G. Pierce, president of the corporation, stated that the directors would give the matter their immediate consideration, and in reply to an inquiry from the floor, declared that the directors have determined upon a policy for the future, but that he was not disposed to disclose it at the present time.

The financial statement for the past fiscal year revealed a loss of $322,228, sales amounting to $813,573, with $271,000 paid in wages. The plant has been closed down since last July.

Kilburn Opposes Liquidation

At the annual meeting held Nov. 23, the stockholders of Kilburn Mill, New Bedford, Mass., were about evenly divided on the question of whether the company should liquidate or continue in operation. The result was 8,428 in favor of continued activity and 8,317 who wished to have the mill closed, with 409 shares not represented in the vote. The vote did not officially close the matter; it was more an effort on the part of the officials and directors to get the sentiment of the stockholders. Directors elected for the coming year are: H. C. W. Mosher, W. Kempton Read, Ezra Dixon, Frank H. Metcalf, Henry L. Tiffany, and George B. Knowles. Mr. Knowles was also elected clerk and treasurer. Robert R. Jenks was added to the board.

Lancaster Plans Merger

A meeting of the stockholders of the Lancaster (S. C.) Cotton Mills was called at Lancaster on Dec. 2 at the office of the company, pursuant to a resolution of the board of directors of the Lancaster plant adopted at a regular meeting, for the purpose of considering such resolution and authorize the amending of the charter to provide that the present par value of the common stock be changed, and to increase the authorized capital stock from $2,500,000 to a total amount of $4,500,000 to permit the acquisition of the capital stock of the Eureka Cotton Mills, Chester, S. C. and the Fort Mill Mfg. Co., Fort Mill, S. C., and to fix preferences and liabilities on the new stock to be issued. Stockholders of the Eureka Cotton Mills will meet Dec. 28 to vote on voluntary liquidation, which plan it is understood ties in with plans for Lancaster's acquisition of the property.

Wamsutta's Loss

In the financial statement presented to stockholders of the Wamsutta Mills at the annual meeting held in New Bedford, Mass., last week, an operating loss of $338,447 was reported after allowing for depreciation charges of $166,698. In addition, the report shows a reduction of $378,565 in value of inventory, bringing total charges of the profit and loss account to $717,013. The net quick surplus showed a decrease of $589,827 from the $1,465,146 of a year ago, the present net quick being $875,319.

Treasurer Charles F. Broughton announced the establishment of a special Wamsutta division at Wilson Bros., Chicago, to develop the firm's trademarked lines, effective Jan. 1.

Operating during the last year, said the treasurer, had averaged about 55%. Though the present output is about 40%, he predicted increased operations for the next fiscal year. About $700,000 was marked off the machinery account with the elimination of yarn machinery in Nos. 1, 2 and 3 mills, he said.

Financial Brevities

Celanese Corp. of America on Nov. 30 declared its regular dividend on its prior preferred stock but took no action on the participating preferred, making the first time since June 30, 1926, that the company has passed its dividend on the older preferred issue. The board of directors declared the regular quarterly dividend of 1¾% on the 7% cumulative series prior preferred stock, payable Jan. 1, 1932, to holders of record of Dec. 15, 1931.

The P. H. Hanes Knitting Co., Winston-Salem, N. C., has declared the regular quarterly dividend of $1.75 on the preferred stock, payable Jan. 2 to stock of record Dec. 21.

At a regular meeting of the board of directors of Canadian Celanese, Ltd., in New York on Nov. 30 a dividend of 1¾% was declared on the 7% cumulative participating preferred stock, payable Dec. 31, 1931, to holders of record of Dec. 15.

Boston Stock Auctions

The following sales of textile shares were made at auction, Nov. 26:

Shrs.	Mill	Par	Price	Ch'ge
16	Naumkeag	100	40½–50	...
2	West Boylston Mfg., pfd.	100	5½	...
19	Quissett Mills	100	25¼	...
70	Ludlow	...	66½–65	—2½
100	American Woolen, pfd.	100	23½	+1¼
25	N. E. Southern,	...	1 lot	...
232	Total			

▶Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co.	40	53
American Yarn & Processing Co.	29	35
Chadwick-Hoskins Co. (Par $25)	4	8
Chadwick-Hoskins Co., 8%, pfd.	70	75
Crescent Spinning Co.	30	38
Durham Hosiery, 6%, pfd.	15	23
Erwin Cotton Mills Co., 6%, pfd.	87	94
Flint Mfg. Co.	..	51
Flint Mfg. Co., 7%, pfd.	..	90
Hanes, P. H. Knitting Co.	3	6
Hanes, P. H. Knitting Co., 7%, pfd.	73	89
Linford Mills	34	46
Perfection Spinning Co.	34	50
Roanoke Mills, 1st pfd., 7½%	38	..
Rosemary Mfg. Co., pfd., 7½%	57	..
Stowe Spinning Co.	32	50
Ware Shoals Mfg. Co.	..	90
Ware Shoals Mfg. Co., 7%, pfd.	83	91
Winget Yarn Mills Co.	..	42
Wicasset Mills Co.	100	120
(A. M. Law & Co., Spartanburg, S. C.)		
Avondale Mills, Ala.	580	675
Bibb Mfg. Co.	80	85
Clifton Mfg. Co.	..	60
D. E. Converse Co.	..	51
Dunean Mills	75	85
Dunean Mills, pfd.	94	96
Gossett Mills	..	30
Hunter Mfg. & Com. Co., pfd.	68	72
Judson Mills, A pfd.	..	76
Judson Mills, B pfd.	..	79
Monarch Mills	..	70
Newberry Cotton Mills	..	65
Orr Cotton Mills	..	35
Pacolet Mfg. Co.	..	40
Piedmont M fg. Co.	52	57
Riverside & DanRiver Mills (Par $25)	6	9
Riverside & Dan River Mills (6%, pfd)	52	58
Southern Bleachery & Print Works, pfd.	..	40
Spartan Mills	..	95
Union-Buffalo Mills, 1st pfd.	..	41
Victor-Monaghan Co.	39	42

▶Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Dec. 1.

	High	Low	Last	Ch'ge
Adams Millis	26½	25½	26	—1
*American Thread, pfd.	2½	2½	2½	— ⅛
American Woolen	5½	4½	4½	— ⅛
American Woolen, pfd.	23½	21½	22	— ⅛
Belding-Heminway	4½	3	3	—1½
*Blumenthal	6	6	6	...
Cannon Mills	19½	18⅞	18⅞	— ⅛
Century Ribbon	6½	5½	5½	— ⅛
Collins & Aikman	9½	8	9½	+ ⅛
Consolidated Textile	⅛	⅛	⅛	— ⅛
Gotham Hosiery	9	8	9	+ ⅛
Industrial Rayon	29	26½	29	+2
Kayser, Julius	9½	8½	8½	— ⅛
Kendall, pfd.	35	32	32	—7½
Mallinson	1½	1½	1½	— ⅛
Mohawk Carpet	9½	8	8½	— ⅛
Munsingwear	14½	14½	14½	— ⅛
Pacific Mills	11	10½	10½	...
*Pepperell	40½	37	37	—3½
Real Silk Hosiery	3½	3	3½	— ⅛
*Tubize	3	2½	3	...
United Piece Dye Works	10½	10½	10½	—1½

*Listed on Curb.

▶New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	48	..
Amoskeag	5½	..	..
Arlington	23	18	20
Associated Textile	10	..	10
Bates	60	41	..
Berkshire Associates, com.	12½	2	4
Berkshire Associates, pfd.	40½	11	15
Bigelow-Sanford, com.	21	..	..
Bc.ott Mills	120½	40	60
Edwards	80½	42	46
Esmond, pfd.	98	95	99
Farr Alpaca	27	14	18
Hamilton Woolen	55	45	50
Hill	7	4	6
Indian Orchard	10	..	10
Ludlow	65	63	66
Merrimack, com.	35	5	..
Nashua, com.	7½	3	6
Nashua, pfd.	29	20	25
Naumkeag	50	49	53
Newmarket	16½	7	11
Otis	45	40	44
Pacific	10½	..	..
Pepperell	42½	41	44
Plymouth Cordage	56	52	55
York	8½	6	..

▸ New Process for Treating Ramie

Announcement of a new chemical process for the purification of ramie was made in New York this week by Samuel S. Eveland, engineer and chemist. Dr. Eveland said that tests by experts of Proctor & Schwartz, machinery manufacturers, and Meigs, Bassett & Slaughter, consulting chemists, both of Philadelphia, show that the yarns made from ramie purified by the new method are of exceptionally high tensile strength and good elasticity. These yarns have been woven and knitted into a wide variety of fabrics to demonstrate the adaptability of the material.

Dr. Eveland, with his associates including E. C. Stuckless, New York capitalist, have organized the Universal Fiber Corp., $1,500,000 capital. At present, ramie is being processed by this company in a small plant in Philadelphia, but arrangements are pending for the acquisition of a larger plant either in Philadelphia or in the South. Dr. Eveland added that he expected the company to be in production on a substantial commercial scale within 90 days.

Ramie has long been a subject of experimentation by textile chemists, but according to Dr. Eveland, the only commercial methods of purifying the fiber up to this time have employed sulphuric acid mixture. His new process eliminates the sulphuric acid treatment and results in a fiber which bears resemblance to linen or wool, according to the method of purifying and spinning. Purified ramie fibers are 10 in. upward in length and can be cut to uniform shorter length to meet various needs.

▸ Wool Industry Activity Declines in October

Wool consumption (grease equivalent) as reported by the Dept. of Commerce for October amounted to 42,990,419 lb. compared with 47,548,225 lb. reported for September, 51,139,895 lb. for August, and 53,886,300 for July. The last named month was the peak for the year. In October, 1930, 40,974,783 lb. was consumed.

The report on activity of wool machinery in October showed a decline from September in all classifications. Percentage of full single shift operation of cards fell from 60.9 to 53.4, combs from 109.0 to 73.9, woolen spindles from 62.5 to 52.7, worsted spindles from 70.4 to 48.7, broad looms from 63.0 to 49.2 and carpet looms from 39.6 to 38.4.

▸ Durene Members Approve 1932 Program

Despite current business conditions which have necessitated diminution, and in some cases discontinuation of many trade associations, the member companies of the Durene Association, representing the mercerizing industry, have voted full continuation of activities for 1932. This decision was made at a meeting held Tuesday in Washington, D. C.

The member companies, it was stated, based their decision upon "the excellent work of the association's New York headquarters which, in the last two years, has secured far-reaching results of very material benefit to the association as a whole."

Many new uses of Durene have been developed during this period. Plans for 1932 include the continuation of all the previous activities of the association. The wide acceptance and sales-stimulating use to which the Durene campaign has been put by the manufacturing, wholesale and retail fields, have decided the association to carry this work forward.

▸ Merriman, Belding Heminway Chairman, Resigns

The Belding-Heminway Co., broad-silk manufacturers, will enter the new year with several new names among its leading executives. This was evident Tuesday when the resignation of H. Morton Merriman, as chairman of the board was announced. Mr. Merriman's resignation becomes effective Dec. 31; he will continue as director. A meeting of the board of directors will be held before the end of the year and is expected to choose a new chairman. As previously announced, Dennis P. Carey resigned as president of the company to become chairman of a newly created management committee of Cheney Bros.; it is not expected that the presidency of the Belding Heminway Co. will be filled for some time.

Mr. Merriman made known his decision at a meeting of the board, Monday, and at the same meeting the board elected John Nash McCullaugh, general manager of Berkshire Knitting Mills, as a director to fill a vacancy on the board. Mr. McCullaugh is now in Europe.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Nov. 28, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Nov. 28	Total to Date 1931	Total to Date 1930
Domestic	294,000	249,673,000	239,851,000
Foreign	463,000	36,944,000	53,791,000
Total	757,000	286,617,000	293,642,000
IMPORTS AT PRINCIPAL PORTS			
Boston	463,000	36,944,000	53,791,000
Philadelphia	394,000	48,877,000	41,970,000
New York	317,000	48,109,000	41,678,000
Total	1,174,000	133,930,000	137,439,000

▸ Additional Mills Make Wage Cuts

A 10% reduction in wages effective Nov. 30 was announced by the Utica (N. Y.) Steam & Mohawk Valley Cotton Mills, affecting 1,200 employees and all officials, this notice followed one given the trade of an additional 10% discount on sheets and sheetings to meet current competition.

Similar wage cuts were announced last week at the Utica Willowvale Bleaching Co., Chadwicks, by the New York Mills Corp. and the Oneida Bleachery, New York Mills.

A number of Utica knitting mills also have effected wage reductions in keeping with the tendency throughout the country.

The Nashua (N. H.) Mfg. Co. announced a wage cut on Nov. 26 that will average 10%, but will vary through the departments.

A wage adjustment downward of 10% became effective last week at the Lowell (Mass.) Silk Mills, employing 600. The executives and office help are affected as well as operatives.

The Atlantic Mills, Providence, R. I., made a 10% wage cut effective Nov. 27.

▸ Cotton Sledding Made Practical Harvesting Method

Mechanical experts of the government's agricultural experiment stations have recently given assurance of the practical perfection of cotton-harvesting machinery, by the use of which one man, with a four-row sled, can strip 4.4 acres of cotton in a 12-hour day. In all, the labor requirement is 2.7 man-hours as against 77 man-hours for hand-picking; and the labor displacement is 83.5%, according to recent compilations made by the Bureau of Labor Statistics of the Department of Labor. In the meantime, the cotton gins have been adapted to the new method of harvesting cotton, so that sledded cotton costs no more for ginning than that which is picked by hand. The loss in quality that at first resulted from sledding has also been eliminated, so that the labor-saving represented above is a net gain.

The perfected machinery is the result of an early idea of progressive cotton farmers who had experimented with the gathering of fallen "bollies" with a horse drag, at the same time stripping from the plants the bolls that had not fallen. The first drag was a section of picket fence, or what is called a "combination fence" in the western States, being constructed of wooden slats bound together with interwoven horizontal wires. This section of fence was dragged over the cotton rows in such manner that the wires caught the bolls, stripped them off the stems, and left them lying on the wooden strips of the drag. But the drag gathered up so much rubbish that the cotton could not be ginned. Not to be discouraged, the farmer ran the stuff through his threshing machine, thus cleaning out enough of the rubbish to enable the gin to do the rest.

The idea was taken up by other farmers, and the experts of the agricultural experiment stations got to work on it. First, a rude wooden sled was constructed, with a "V"-shaped slot for catching the stalks and stripping off the bolls. The bolls were worked backward by the forward motion of the sled into a wooden box.

Print Cloth Curtailment Urged by Converters and Commission Houses

(From TEXTILE WORLD'S *Southern Office)*

WITH drastic curtailment of production as the only hope for profitable operations in print cloths during 1932, manufacturers who in the past have faithfully supported efforts to control output in line with demand, have now reversed their positions and adopted a policy of "watchful waiting" to ascertain what action will be taken by the relatively small group of executives that have not heretofore appreciated the need for general curtailment.

This group of non-conformists, although consisting of perhaps not more than seven or eight mill executives, controls practically 20% of productive capacity ordinarily engaged in print cloth production. This minority, failing to recognize the necessity for concerted action, persistently operated on full-time double shift schedules when the majority of mills in the group were running only 40 to 50% of capacity as a means of avoiding serious overproduction of goods.

Those print cloth manufacturers who carried the burden of curtailment during the critical period in 1930 and for the first eight months of this year, disappointed because the beneficial results of their heroic efforts were largely nullified by the unwarranted increased production of the non-conformists, finally decided that they would no longer "hold the umbrella" over their highly individualistic competitors. Consequently, production schedules generally were increased beyond limits established by the rate of consumption. To say that the present situation is critical is anything but exaggeration; the need for a uniform basis of curtailment is imperative and action in this direction should be taken immediately.

Important converters, who realize that their future necessarily is at stake, have expressed themselves in no uncertain terms as opposed to the practice of over-time running by the print cloth mills.

The information obtained this week by the southern editor of TEXTILE WORLD leads to the conclusion that pressure from the buyers of gray goods is having a gradual but definite effect upon the so-called unenlightened minority. One organization recently announced an actual 50% curtailment program, while another group of mills also indicated a willingness to support any constructive attempt to stabilize the print cloth and narrow sheeting markets.

Interested factors in the South regard such a significant change in policy by the management of these important mills with no small amount of hope. Efforts are being made by commission houses to impress their mills with the seriousness of the current situation and to emphasize the immediate need for reduced operating schedules in the print cloth group. Many believe that widespread curtailment must be inaugurated not later than the first of January, but apparently the big question in the minds of mill executives of the group now is, will the handful of manufacturers who would not join the majority in the past follow the example set by the two manufacturers referred to above, establish a definite policy of curtailment in their plants, and cooperate to restore the print cloth market to a profitable basis?

▸ Machinery Men to Address N.A.C.M. Spinners Forum

Edmund E. Blake, chief engineer of Saco-Lowell Shops, Boston, and J. L. Truslow of Whitin Machine Works, Whitinsville, Mass., will address overseers from New England mills next Thursday, Dec. 10, at the Textile Forum conducted by the National Association of Cotton Manufacturers in the Boston Chamber of Commerce Building.

Developments and improvements in textile machinery in general, with particular reference to spinning, will be the subject of the remarks of the speakers who will open the morning and afternoon sessions. The idea of having designated speakers to start the discussions is a new departure for these meetings.

The subjects for discussion will include: long draft spinning, specialized spinning, systems of maintaining machinery in good condition, value of self-weighted top rolls and different types of machinery designed for spooling and warping.

Engineers Discuss Sanforizing and Machinery Improvement

THE Textile Division of the American Society of Mechanical Engineers, meeting last Wednesday at the society's building in New York, conducted spirited discussions on sanforizing and the advances recently made in textile machinery. The former discussion followed the reading, by C. H. Ramsey, president of the Morrison Machine Co., Paterson, N. J., of a paper on preshrinking prepared by Sanford L. Cluett, vice-president of Cluett, Peabody & Co., Troy, N. Y. The latter discussion followed a paper presented by E. D. Fowle, associate editor of TEXTILE WORLD, New York. Abstracts of both papers appear elsewhere in this issue. The annual progress report, prepared this year by W. L. Conrad, consulting engineer, New York, was briefly reviewed by the author. This will appear in an early issue of TEXTILE WORLD. The meeting was better attended than any previous annual get-together in New York, and was presided over by Paul A. Merriam, chief engineer of the U. S. Finishing Co., Providence, R. I., and retiring chairman of the division's executive committee.

Following the technical meeting, a luncheon was served at the Fraternity Clubs. At this time the election of the following officers for the ensuing year was announced: Chairman, H. M. Burke, Dutchess Bleachery, Wappingers Falls, N. Y.; vice-chairman, P. A. Merriam; secretary, M. A. Goldrick, Jr., Dutchess Bleachery; executive committee, H. V. W. Scott, Paterson, N. J., W. L. Conrad, and C. H. Ramsey; Southern committee, Reynolds Longfield, Augusta, Ga., and H. D. Leonard, Lyman, S. C.; New England committee, A. W. Benoit, Boston, Mass., and Albert Palmer, Worcester, Mass. Mr. Merriam announced that plans are under way for a meeting of the Textile Division in conjunction with the Greenville, S. C., machinery exposition in the fall. G. A. Lowry, of Lowry & Grant, New York, described briefly a new system developed by his company for producing American flax at 7½c. per pound and spinning it on cotton machinery. W. L. Conrad complimented Mr. Merriam on his successful term of office and cited statistics to show that engineers as a class are holding more responsible positions in the industry than ever before and that the trend is steadily upward. The society, in his opinion, is helping to develop this trend.

▸ Arthur Alterman Joins Amoskeag Sales Staff

Arthur Alterman, who has been associated with the knitted outerwear industry for the last 17 years in both the selling and manufacturing branches, has joined the knitting yarn sales department of the Amoskeag Mfg. Co., Manchester, N. H., spinners of worsted zephyr and cotton yarns. Mr. Alterman has assumed his new duties, covering the Philadelphia and New York manufacturing areas. Up to June, 1929, he was affiliated with the Franklin Sweater Mills, Philadelphia, in a sales capacity, and more recently, has been active in the knitted outerwear manufacturing field in Philadelphia.

▸ New Hosiery Sales Firm

Organization of a new hosiery sales unit, to be known as Quinlan, McChesney Corp., with headquarters in New York, has been announced. The members of the new firm include W. J. McChesney, Jere P. Quinlan and Ira H. Everett. Among the mills which they will represent are: Browning Hosiery Mills, Chattanooga; Sir Walter Hosiery Mills, Burlington, N. C., and the Jackie, Jr. Sport Hosiery Mills, Narrows, Va.

All members of the firm are veterans in the merchandising of hosiery.

QUOTATIONS

at close of business, Dec. 2, 1931
Prices cover average qualities unless otherwise stated

Cotton Goods

	Dec. 2	Nov. 24	Dec. 3 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2¼c.	2⅛–2 3/16c.	4½c.
38½-in., 64x60, 5.35	3¼c.	3¼c.	5½c.
39 -in., 68x72, 4.75	3¼c.	3¼–3⅜c.	6¾c.
39 -in., 72x76, 4.25	4¼c.	4¼–4⅜c.	7 c.
39 -in., 80x80, 4.00	5c.	5–5¼c.	7¼–8 c.
BROWN SHEETING			
36-in., 56x60, 4.00	4⅛–4¼c.	4¼c.	6¼c.
36-in., 48x48, 3.00	4¼c.	4¼c.	7¼c.
37-in., 48x48, 4.00	3¾–4c.	4c.	5¼c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4¼c.	4¼–4¾c.	6¾c.
36 -in., 64x60, 5.75	3¾c.	3¾–4 c.	5¼c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	4¼c.	5 c.	7¼c.
Denims, 2.20	9¼c.	9¼c.	12½c.
Tickings, 8 oz.	13 c.	13 c.	16 c.
Standard prints	7 c.	7 c.	7¼c.
Eastern staple ginghams, 27-in.	7¼c.	7¼c.	8 c.

Cotton Waste

Peeler comber	5¾ – 6¼
Peeler strips	5¼ – 5¾
Sak. comber	4¾ – 5¼
Choice willowed fly	2¾ – 3¼
Choice willowed picker	2 – 3
Sak strips	6¼ – 7
Linters (mill run)	1¾ – 2¼
White spooler (single)	4¼ – 4¾

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.13	22s	$0.16½
10s	– .13½	24s	– .17½
12s	– .14	26s	– .18½
16s	– .14½	30s	– .20½
20s	– .15½	40s ex. qual.	– .29½

TWO-PLY SKEINS AND TUBES

8s-2	$0.14	26s-2	$0.19
10s-2	– .14	30s-2	– .20
12s-2	– .14½	36s-2	– .26
14s-2	– .15	40s-2	– .28
16s-2	– .15½	40s-hi.brk.	– .30
20s-2	– .16½	50s-2	– .35
24s-2	– .18	60s-2	– .38

SINGLE WARPS

10s	$0.13½	24s	$0.17
12s	– .13½	26s	– .18
14s	– .14	30s	– .19½
16s	– .14½	40s. ex.qual.	– .29½
20s	– .15½		

TWO-PLY WARPS

8s-2	$0.14	24s-2	$0.18
10s-2	– .14½	26s-2	– .19
12s-2	– .15	30s-2	.20 – .20½
14s-2	– .15½	40s-2 ordin.	– .28
16s-2	– .16	50s-2	– .35
20s-2	.16½ – .17	60s-2	– .38

8s-2 and 4-ply skeins and tubes; tinged, 12½; white, 13½; waste, 12

HOSIERY CONES (Frame Spun)

8s	$0.13½	22s	$0.17
10s	$0.13½ – .14	24s	– .18
12s	.14 – .14½	26s	– .19
14s	.14½ – .15	30s tying	– .19
16s	.15 – .15½	30s reg.	– .21
18s	.15½ – .16	30s ex.qual.	– .22
20s	.16 – .16½	40s	– .27

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 – .26	60s-2	$0.40 – .43
30s-2	.28 – .30	70s-2	.52 – .54
36s-2	.32 – .33	80s-2	.63 – .65
40s-2	.33 – .34	90s-2	.85 – .90
50s-2	.37 – .38	100s-2	1.03 –1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	– .31	70s-2	– .55
36s-2	– .34	80s-2	– .63
40s-2	– .35	90s-2	– .93
50s-2	– .38	100s-2	–1.03

SINGLES

12s	$0.20	30s	$0.26½–0.28½
14s	– .20½	38s	– .31
16s	– .21	40s	– .32
18s	– .21½	50s	– .37
20s	– .22½	60s	.42 – .44
24s	.24½ – .25	70s	.55 – .56
28s	.26½ – .27½	80s	.65 – .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.36½–0.38½	90s-2	$0.90
30s-2	.38 – .40	100s-2	1.15–1.25
36s-2	.40 – .42	120s-2	1.50–1.60
40s-2	.42 – .44	30s	.51– .52
45s-2	.42½ – .44½	40s	– .56
50s-2	.45 – .47	50s	.61– .64
60s-2	.50 – .54	60s	.70– .73
70s-2	.64 – .66	70s	.80– .83
80s-2	.73 – .75	80s	.92– .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Nov. 26	For the Week High	For the Week Low	Closed Dec. 2	Net Ch'ge
December	6.08	6.29	5.96	5.99	—.09
January	6.15	6.38	6.00	6.07	—.08
February	6.23	6.25	6.10	6.14	—.09
March	6.33	6.54	6.17	6.23	—.10
April	6.40	6.40	6.28	6.31	—.09
May	6.50	6.72	6.35	6.41	—.09
June	6.58	6.53	6.46	6.50	—.08
July	6.68	6.91	6.52	6.60	—.08
August	6.77	6.77	6.64	6.67	—.10
September	6.86	6.86	6.73	6.75	—.11
October	6.96	7.17	6.81	6.83	—.13

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Nov. 26	Holiday	Holiday	....
Friday, Nov. 27	6.15	5.99	4.90
Saturday, Nov. 28	6.20	6.03	4.88
Monday, Nov. 30	6.20	6.03	4.95
Tuesday, Dec. 1	6.10	5.98	5.18
Wednesday, Dec. 2	6.10	5.98	5.12

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Dec. 1		Change
Jan. Sak	13.49	+0.21
Dec. uppers	9.63	+0.62
Dec.-Jan. Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak		12.00
Fully good fair to good Uppers		9.50

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cent
Peruvian Tanguis Strict Middling	17½
Peruvian Pima No. 1	16
Peruvian Moderate Rough	13
Peruvian Full Rough	17
China Tientsin No. 1	10
India Rough	7 to 9½
India Smooth	6½ to 8½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	511,000	494,000	439,000
Season	8,246,000	8,823,000	9,223,000

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U.S.*	6,984,000	5,891,000
Afloat to and at ports of Europe	1,376,000	1,794,000
Afloat to and at ports of Orient	731,000	303,000
Total	9,091,000	7,988,000
	Increase	Increase
Change during week	172,000	205,000

*Includes afloat to New York.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U. S.	29,000	282,000	30,000	276,000
So. States, U. S.	151,000	1,840,000	116,000	1,644,000
Total U. S.	180,000	2,122,000	146,000	1,920,000
Great Britain	29,000	364,000	20,000	308,000
Continent	97,000	1,016,000	73,000	1,207,000
Orient	28,000	760,000	42,000	348,000
Canada and other America	5,000	60,000	8,000	89,000
Total foreign countries	159,000	2,200,000	143,000	1,952,000
World total	339,000	4,322,000	289,000	3,872,000

EXPORTS FROM UNITED STATES

Total	224,000	2,676,000	147,000	3,075,000

AVERAGE PRICE DEC.-JAN., SHIPMENT

HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/32-in.	8 – 8½c	8½– 8¾c.
1 1/16-in.	8¾– 9¼c	9¼– 9¾c.
1 3/32-in.	9¾–10¼c.	10¾–11c.
1⅛-in.	13¾–14¼c.	14¾–15¼c.

Basis on New York, March, 6.19.

SPOT FLUCTUATIONS AND STOCKS

Markets	Nov. 24	Dec. 4	Sales	This Week	Last Year
Galveston	6.25	6.05	3,975	992,019	679,170
New Orleans	6.25	5.98	14,670	804,619	748,026
Mobile	5.90	5.65	5,238	243,921	167,872
Savannah	6.10	5.82	2,507	357,167	288,138
Norfolk	6.31	6.00	233	69,447	94,700
New York	6.35	6.10	4,000	225,250	230,963
Augusta	6.13	5.94	1,750	134,864	147,059
Memphis	5.70	5.45	57,626	483,699	392,740
St. Louis	5.70	5.50	.....	.....	8,364
Houston	6.15	5.90	15,940	1,677,540	1,499,569
Dallas	5.75	5.55	41,276	52,422	43,346

DIFFERENCES ON AND OFF MIDDLING WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	.75†	0.75†	0.75†	0.72†
S.G.M	.50†	.50†	.65†	.63†	.58†
G.M	.40†	.40†	.45†	.44†	.42†
S.M	.25†	.25†	.25†	.25†	.26†
S.L.M	.30*	.25*	.30*	.25*	.30*
L.M	.65*	.50*	.75*	.75*	.72*
S.G.O.**	1.00*	.75*	1.15*	1.13*	1.08*
G.O	1.35*	1.00*	1.50*	1.50*	1.43
YELLOW TINGED					
G.M	0.30*	0.25*	0.30*	0.31*	0.31*
S.M	.45*	.40*	.50*	.50*	.51*
M.**	.65*	.50*	.75*	.75*	.74*
S.L.M	1.00*	.90*	1.15*	1.13*	1.11*
L.M	1.35*	1.40*	1.50*	1.50*	1.48*
YELLOW STAINED					
G.M	0.65*	0.60*	0.50*	0.50*	0.75
S.M.**	.90*	1.10*	.75*	.75*	1.04
M.**	1.35*	1.35*	1.15*	1.13*	1.49
BLUE STAINED					
G.M.**	0.65*	0.35*	0.75*	0.75*	0.73*
S.M.**	1.00*	.85*	1.15*	1.13*	1.10*
M.**	1.35*	1.10*	1.50*	1.50*	1.46*

**Grades not deliverable on contract.
*Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne...	$0.24 –$0.25	¾ blood...	$0.23 –0.24
Fine clthg...	.20 – .21	¼ blood...	.21 – .21½
½ blood...	.23 – .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.55 –0.58
California, Northern	.48 – .50

PULLED—EASTERN (CLEAN BASIS)

AA...	$0.58 –$0.60	B-Super...	$0.43 –0.45
A-Super...	.48 – .50	C-Super...	.38 – .40

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.58 –0.60
Staple ½ bld.	.54 – .56
Fine and fine medium	.53 – .55
¾ blood	.48 – .50
¼ blood	.40 – .43

MOHAIR—DOMESTIC

Best carding	$0.23 –0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
7s	$0.45 –0.47
64s	.38 – .40
58s-60s	.33 – .35

(IN GREASE)

Montevideo:	
58s-60s	$0.16 –0.17
56s	.15 – .16
50s	.14 – .15
Buenos Aires:	
44-40-44s	$0.11 –0.12
56-36-40s	.11 – .12

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.23 –0.25
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75
2-24s 40s	– .80
2-26s 44s	.82½– .85
2-28s 46s	– .87½
2-30s 48s	.92½– .95
2-32s 50s	.97½–1.00
2-30s 64s fancy mixes	1.35 –1.37½
(Single yarns 5c. less than above)	
2-36s 58s	1.05
2-40s, 60s	–1.20
2-40s, 64s	1.27½–1.32½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.70 – .72½
2-20s, 48s in oil	.72½– .75
2-20s, 50s in oil	.75 – .80
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	–1.00
2-20s, 64s in oil	1.12½–1.15
1-18s, 44s dyed	.90 – .92½
1-18s, 50s dyed	.92½– .95
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	.97½–1.00
1-20s, 60s	1.02½–1.05
1-18s, 64s, dyed	1.25 –1.27½
1-26s, 64s	1.07½–1.10
1-30s, 60s, Warp	1.12½–1.15
1-30s, 64s, Warp	1.15 –1.17½
2-30s, 64s, Fancy mixes	1.35 –1.37½
2-40s, 64s, Zephyrs	1.27½–1.30
1-50s, 66s	1.42½–1.47½
2-50s, 66s	1.50 –1.55
1-60s, 76s	1.75 –1.80
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Nov. 24	For Week High	For Week Low	Closed Dec. 1	Net Ch'ge
December	68.50	69.00	68.00	68.50	.....
January	69.50	69.50	67.50	67.50	—2.00
February	68.50	68.50	67.50	67.50	—1.00
March	68.50	68.50	67.50	67.50	—1.00
April	68.50	68.50	67.50	67.50	—1.00
May	68.50	68.50	67.50	67.50	—1.00
June	68.50	68.50	67.50	67.50	—1.00
July	68.50	68.50	67.50	67.50	—1.00
August	68.50	68.80	67.50	67.50	—1.00
September	68.50	68.50	67.50	67.50	—1.00
October	68.50	68.80	67.50	67.50	—1.00
November	.....	.....	.....	.....	.....

Tops and Noils

TOPS —BOSTON

Fine -64-66s)	$0.80 –0.83
Half-blood (60-62s)	.73 – .76
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ¼ blood (50s)	.53 – .55
46s S. A. and N. Z.	.61 – .63
44s S. A. and N. Z.	.56 – .58
40s S. A. and N. Z.	.50 – .52

TOPS — BRADFORD, ENG. (NOV. 27)

Fine (70s)	27 d	¾ bld. (56s)	19½d
Fine (64s)	25 d	½ bld. (50s)	15 d
½ bld. (60s)	24 d	Cross-bred (46s)	11½d

NOILS — BOSTON

Fine	$0.30 –$0.33	High ¼ bld.	$0.26 –$0.27
Half-bld	.30 – .31	Low noils	.21 – .23
Aver. ¾ bld.	.26 – .28	Medium colored	.22 – .24
Fine colored	.30 – .31		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.55 – .58
Lap, fine colored	.40 – .43
Hard ends, fine white	.41 – .43
Hard ends, ¼ blood white	.30 – .32
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.21 – .23
Burr, fine carbonized	.23 – .25

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.05 –0.05½
Merinos, fine dark	.03½– .04
Merinos, fine light	.10 – .11
Serges, blue	.04½– .05
Serges, black	.04½– .05
Serges, red	.08 – .09
Knit, white	.19 – .20
Knit, red	.10 – .11
Knit, light hoods	.09½– .10½
Worsted, light	.04 – .05
Worsted, blue	.05 – .05½
Worsted, black	.05½– .06

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX sk 85%	$3.70
Japan organzine, 2 thd. grand sk. 83%	3.50
Japan organzine, 2 thd. sp. crack. sk. 81%	3.40
Japan crepe, 3 thd. gd. XX bob. 83%	3.50zz
Japan crepe, 3 thd. sp. crack. bob. 81%	3.40
Japan grenadine, 4 thd. sp. grand singles, 87%	4.70
Japan grenadine, 3 thd. 90%	5.50
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.65
Hosiery tram, 3 thd. Japan 90%	4.35
Hosiery tram 5 thd, Japan, 85%	3.40
Hosiery tram, crack XX 78%	3.10

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$2.95	$2.45	$2.45
Special Grand, 85%	2.70	2.40	2.40
Grand XX, 83%	2.55	2.35	2.35
Special Crack, 81%	2.45	2.30	2.30
Crack XX, 78%	2.35	2.25	2.20
Extra Extra, 73%	2.30	....	....
Best Extra, 68%	2.25	....	....

Canton filature, new style, 14/16	$1.95
Canton filature, new style, 20/22	1.85
Tussah filature, 8 cocoon	1.10

NATIONAL RAW SILK EXCHANGE

	Close Nov. 24	For the Week High	For the Week Low	Close Dec. 1	Net Ch'ge
December	2.24	2.25	2.17	2.20	—.04
January	2.27	2.26	2.19	2.20	—.07
February	2.26	2.26	2.19	2.20	—.06
March	2.26	2.26	2.19	2.20	—.06
April	2.25	2.26	2.20	2.20	—.05
May	2.25	2.26	2.19	2.20	—.50
June	2.26	2.26	2.19	2.20	—.06
July	....	2.21	2.20	2.22	.....
November	2.27	2.30	2.25	....	.....

Total number of bales, 7,130. Total approximate value, $2,370,725. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First Qual.	Second Qual.
30	8	$2.25	...
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

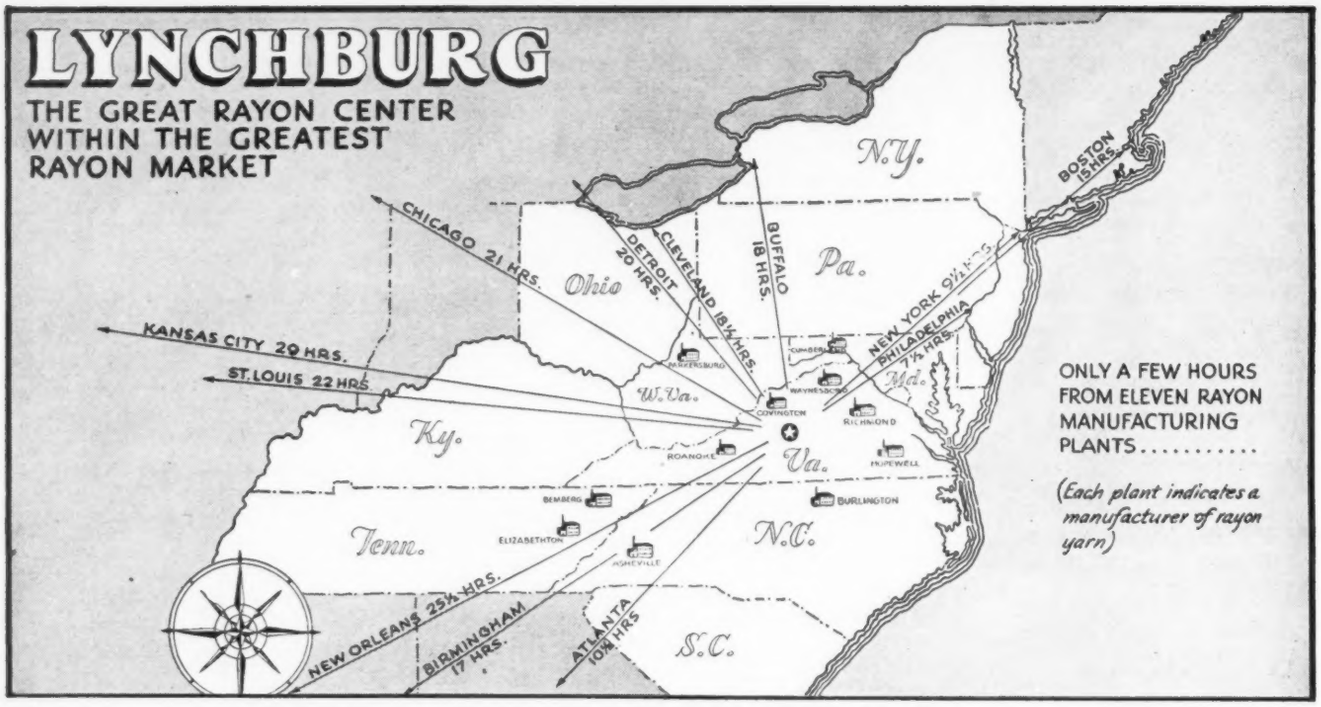
Open bleached waste	$0.13–$0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–$0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50



LOCATED FOR QUICK LOW COST DISTRIBUTION TO A POPULATION AREA OF OVER 49 MILLION PEOPLE . .

Let the natural advantages of *Lynchburg* lift you out of the welter of competition

Resolve now to investigate the strategic advantages offered by Lynchburg to weavers and knitters of Rayon, or for any textile plants for that matter.

As you can see from the map above, Lynchburg is within quick access of the eleven huge rayon plants. This means an unlimited supply of rayon of all varieties at very little transportation cost—available quickly and easily.

Three great trunk lines intersect here giving overnight service to all of the principal markets.

Hydro-electric power . . . . low taxes . . . . even climate the year 'round . . . . and a plentiful supply of workers of American origin . . . . assure basic low costs that can be duplicated in few other places on this continent.

Lynchburg is not only the ideal spot for a textile plant but a delightful place to live . . . . a city rich in historical associations and cultural background.

WRITE for this interesting booklet and learn more about this city of industry and opportunity.

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LYNCHBURG, VA.

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